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ABSTRACT

This publication contains five reports of task groups charged with helping the State University of New York (SUNY) develop specific action agendas for the coming decade and the year 2000. These reports flow from the SUNY 2000 vision of becoming a significantly greater player in helping meet the needs of the state in economic development, environmental conservation, health care, public education, and social services. Each area was addressed by a group of key state and non-state policy makers together with SUNY faculty, researchers, and administrators. The first report, "Providing Advanced Knowledge for a Global Economy: The Roles of SUNY in the Economic Development of New York State," suggests 4 principles for responding to a turbulent economy, lists 15 initiatives, advances a vision for transforming the state's economy, and argues for higher education's role in that transformation. The report on environmental conservation looks at the potential for an expanded role for SUNY and ways to respond to state needs in this area. The report on health care offers a series of specific recommendations grouped by the areas of educational programs, research, and service. The report on public education makes recommendations according to three themes: (1) student preparation and school-to-college transition; (2) school-college collaboration; and (3) university programs. The final report on social services offers five recommendations: two to link individuals and institutions concerned with social services and three focused on internal changes designed to enable SUNY faculty and staff to be responsive to the research, education, and service needs of the state's social services community. Two appendixes list the regional committees of the Task Force on Economic Development and the challenges, strategies, and goals identified in the regional reports. An addendum comprising about half of this document provides summary notes of discussions of each task force report with SUNY presidents while on retreat. (JB)

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STATE UNIVERSITY OF NEW YORK

SUNY 2000

MEETING STATE NEEDS:

Reports of the SUNY 2000 Task Groups

October 1992

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SUNY 2000 State Needs Task Groups

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President, University at Buffalo

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Task Group Chair: Dr. Ross S. Whaley
President, State University College of Environmental Science
and Forestry at Syracuse

Report of the Task Group on Health Care
Task Group Chair: Dr. Jordan Cohen
Dean, University at Stony Brook School of Medicine

Report of the Task Group on Public Education
Task Group Chair: Dr. L. Eudora Pettigrew
President, State University College at Old Westbury

Report of the Task Group on Social Services
Task Group Chair: Dr. Richard P. Nathan
Provost, Rockefeller College, University at Albany
Director, Rockefeller Institute of Government

PREFACE

One of the major goals identified in *SUNY 2000: A Vision for the New Century*, published in September 1991, was for State University of New York to become a significantly greater player in helping meet the needs of New York State in five key areas: economic development, environmental conservation, health care, public education, and social services.

The reports in this volume, the work of SUNY 2000 State Needs Task Groups, follow a year-long process which brought key state and non-state policymakers together with SUNY faculty, researchers, and administrators to help SUNY develop specific state needs action agendas.

A Chancellor's State Needs Advisory Council, whose membership includes commissioners or deputy commissioners from each of the cognizant state needs agencies, reviewed each draft report and provided a long-term coordinative framework for task group efforts. A list of council members appears on the following page.

The results of the SUNY 2000 Task Group process are exciting — five individual reports containing specific state needs goals and recommendations for SUNY. These are action agendas, well thought out, largely achievable, carrying with them the authority and imprimatur of the state's key policymakers.

In the upcoming months, SUNY will be actively seeking out response to the reports, with the goal of issuing a comprehensive SUNY state needs statement by spring of 1993. I look forward to hearing your thoughts and ideas.

The active partnership of New York State was crucial to the success of this effort. I thank Mary Jo Bane, Mark R. Chassin, Elin M. Howe, Thomas C. Jorling, Thomas Sobol, Richard C. Surles, and Vincent Tese for the active support of their agencies. Special thanks are also due the Executive Chamber and task group chairs Jordan Cohen, William R. Greiner, Richard P. Nathan, L. Eudora Pettigrew, and Ross S. Whaley.

Finally, I believe these reports lay the groundwork for a continuing collaboration between SUNY and key state agencies that can greatly enhance New York's ability to meet the ever-increasing demands of the future.

D. Bruce Johnstone
Chancellor

Chancellor's Advisory Council on State Needs

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President
Faculty Council of Community Colleges

SUNY 2000
State Needs Task Group on Economic Development

FINAL REPORT

Providing Advanced Knowledge for a Global Economy: The Roles of SUNY In the Economic Development of New York State

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PREFACE

In September 1991, the SUNY Board of Trustees and SUNY Chancellor D. Bruce Johnstone issued *SUNY 2000: A Vision for the New Century.* The Chancellor described the report as a "plan for the State University of New York as it approaches the next century." The report identified the following as one of the key principles guiding SUNY into the new century:

> The university must respond to the needs of the state, particularly in health care, economic development, social welfare, environmental conservation, and public education.[1]

The report further declared as one of its overarching goals that:

> SUNY must take the lead within higher education in New York State in addressing the public aspirations and needs of the citizens of the state and improving the quality of life for all New Yorkers through its contributions to workforce development, strengthening public education, health care, economic development, social welfare, environmental conservation, culture and the arts.[2]

After presenting *SUNY 2000*, the Chancellor called for the creation of state needs task groups to address selected areas of state need: health care, economic development, social welfare, environmental conservation, and public eduction.

This report presents the findings of the State Needs Task Group on Economic Development. The task group had the responsibility for formulating SUNY priorities for economic development in consultation with the Chancellor's Advisory Council on State Needs.

The State Needs Task Group on Economic Development operated both through a statewide committee and through six regional committees. Though the regional committees each proceeded somewhat differently, they were generally composed of representatives of the region's SUNY units and of regional economic development officials.

As indicated further in this report, New York State's regions have been developing increasingly distinct economic identities. Responding to unique regional needs, each of the regional committees has prepared a report suggesting regional SUNY priorities for economic development. Appendix 1 shows the regions covered by the committees and lists the SUNY units located in each. Summaries of the regional committees' recommendations appear in Appendix 2. Readers interested in the regional committees' full reports should obtain them from the regional Chairs listed on page 3.

The SUNY State Needs Task Group on Economic Development was chaired by William R. Greiner, President of the University at Buffalo. The other members consisted of the chairs and co-chairs of the regional committees and of representatives of state agencies and advisory groups concerned with economic development. The frontispiece to this report lists the Task Group's members.

The Task Group was given responsibility to serve as a stimulus for renewing efforts across the SUNY system to help the state enhance its competitiveness in the global marketplace and its economic status relative to other states. In that spirit, this report suggests broad principles and specific initiatives for renewing SUNY's roles in New York's economic development.

State University of New York

State Needs Task Group on Economic Development

Chair: William R. Greiner, President, University at Buffalo

- *Regional Committee Chairs and Co-Chairs*

Capital and Mid-Hudson Regional Committee
Chair: Mr. H. Patrick Swygert, President, University at Albany
Co-Chair: Dr. Alice Chandler, President, State University College at New Paltz

Central NY and Finger Lakes Regional Committee
Chair: Dr. John E. Van de Wetering, President, State University College at Brockport
Co-Chair: Dr. Stephen L. Weber, President, State University College at Oswego

Long Island and NYC Regional Committee
Chair: Dr. John H. Marburger, President, University at Stony Brook
Co-Chair: Dr. Sean A. Fanelli, President, Nassau Community College

Mohawk Valley and North Country
Chair: Dr. William C. Merwin, President, State University College at Potsdam
Co-Chair: Dr. Peter J. Cayan, President, SUNY Institute of Technology at Utica/Rome

Southern Tier
Chair: Dr. Lois B. DeFleur, President, University at Binghamton
Co-Chair: Dr. Alan B. Donovan, President, State University College at Oneonta

Western New York
Chair: Dr. Dale M. Landi, Vice President, Sponsored Programs, University at Buffalo
Co-Chair: Dr. John O. Hunter, President, State University College of Technology at Alfred

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New Directions for Economic Development

Principles for Responding to a Turbulent Economy

At a time when New York State is undergoing multiple economic transformations, higher education has become the key to the state's future prosperity.

New York's institutions of higher education contribute to shaping the state's economic future by selecting public and private subjects of instruction, choosing institutional research priorities, shaping curricula, and determining access to educationally disadvantaged New Yorkers. But SUNY (along with CUNY) is the state's foremost academic institution that responds to economic needs as a matter of formal responsibility and public trust. The challenge to SUNY at the turn of the century is to more strategically select and develop its traditional educational functions for the sake of the state's economic development.

To carry out this economic development role, SUNY should adhere to a number of principles. They fall under the following categories: (I) defining the university's primary economic development mission, (II) developing educational, research, and training priorities for carrying out this mission, (III) broadening access so underrepresented groups benefit from this mission, and (IV) organizing initiatives (to carry out this mission) according to the state's economic regions. The principles are as follows:

Defining the Primary Economic Development Mission:

A. SUNY exerts its most profound effect on the state's economic development through education, research, and training. In seeking to respond to state economic development needs, SUNY should strive first of all to improve its performance of this economically critical mission.

B. Education, research, and training are essential for developing New Yorkers' abilities in a vast variety of business functions, including: international trade, entrepreneurship and small business management, research and development, accounting and information systems, equipment repair and maintenance, and labor-management relations, as well as the literacy and numeracy of the workforce. Moreover, the state's critical business needs are continuously changing and vary by region and industry. SUNY should increase its capacity to:

1. strategically choose subjects of applied research and technology, training, and education in relation to regional needs and current industrial and technological developments;

2. identify practical approaches to achieving faster reaction times in setting up and adapting programs in response to economic change; and

3. develop programs of lifelong education to periodically retrain workers and practicing professionals.

C. Programs of direct service and information dissemination to the private sector can enhance the economic effects that the university system exerts through its core activities. SUNY should strive, therefore, to consolidate and refine its technology-transfer offices, technology extension, incubators, science parks, and advisory services. These programs can have economically valuable effects as long as their host institutions maintain the excellence of their core missions—education, training, and research.

Developing Educational, Research, and Training Priorities:

A. SUNY should recognize that the number of existing and emerging fields of economic importance exceeds any institution's teaching and research capability. Even university centers will have to reassess whether they can continue to be "comprehensive institutions" or must rather develop niches on the state and national educational scene. In developing appropriate "niches," academic institutions will, nevertheless, have to retain their ability to educate broadly, with an awareness of global changes. The development of niches will require strategic thinking and painful priority-setting. In developing priorities, SUNY should especially pursue the following directions.

B. SUNY should build up international education and research so that more New Yorkers will be able to respond knowledgeably to the global trends overtaking the state. More New Yorkers will have to become proficient in foreign languages, comprehend foreign cultures, study abroad, learn about foreign governments and economies, and understand international trade and foreign business practices.

C. SUNY should build and strengthen the system's ability to develop and convey scientific and technological knowledge. Emphasize the selection of economically relevant subjects of research concentration. Focus on improving the quality of applied research and education, in addition to educating more scientists and engineers.

D. SUNY should educate more of our undergraduates for versatility: versatility in literacy, speech, reasoning, critical inquiry, and the ability to extend their talents through the intelligent use of information technologies.

E. Training programs deserve to be considered among SUNY's major priorities: training is simultaneously a crucial path to better incomes for New Yorkers with lower educational attainments and a critical means of preparing and upgrading the state's workforce to meet changing occupational and technological needs.

Broadening Access to Underrepresented Groups:

A. SUNY should increase the participation of underrepresented groups in higher education.

B. SUNY best serves economically disadvantaged groups by following the principles guiding SUNY's role in the rest of the economy: through education, research, training, and service to develop economically relevant skills and capabilities.

Organizing Initiatives According to Regions:

A. To increase its ability to respond to changing industrial needs, SUNY should develop regional capacities to collect and disseminate information, anticipate trends, expose faculties and students to practitioners who are aware of contemporary changes, and apply these lessons in the shaping of curricula, research priorities, and training programs.

B. Working through regional groupings of campuses, SUNY should strengthen, strategically plan for, and coordinate the development of training programs around the state.

C. SUNY should strive to strengthen and build up those fields of applied research, training, education, and service that complement regional clusters of industry or technology. To do so, SUNY will have to build up regional capacities for strategic planning, further develop its collaborative relationships with representatives of relevant industries, and expand relationships with relevant state agencies.

D. SUNY should develop guidelines to help its units make better use of public-private collaborative relationships. The guidelines should help SUNY units in deciding

   1. which kinds of occupational education belong in institutions of higher education, which ought to be exclusively in private firms, and which ought to be offered through various combinations of both.

   2. how to cultivate and appropriately organize industry-university research partnerships that target technological fields critical to New York State and its regions.

Specific Directions and Initiatives

The following are specific directions and initiatives by which SUNY can carry through on these principles. They are not listed in priority order.

INITIATIVE 1

Build Capacities for and Provide SUNY Strategic Planning for Regional Economic Development

SUNY should encourage regional groupings of SUNY units to build their capacities for strategic planning. The strategic planning initiatives could take the form of "Strategic Planning Institutes" located on a selected campus in each region.

Whether in the form of strategic planning institutes or other entities, regional groupings of SUNY units should conduct the research and analysis that helps educational, research, and training programs adapt to changing industrial, occupational, and technological needs. They should conduct some of the following activities:

- Identify high-priority regional industrial needs and trends. These can fall under some of the following headings:

  business functions, such as export sales, research and development, human resource management, labor-management relations, entrepreneurship and the starting-up of businesses, accounting and information systems, real property management, purchase and inventory, and waste management and recycling;

  industries (auto parts, consumer goods, printing, tourism, banking, etc.) or *generic technologies* (advanced materials, biotechnology, microelectronics);

  categories of business, such as small business, businesses owned by minorities and women, rural businesses, businesses in a specific neighborhood, and businesses expected to be targets of takeover attempts; and

  collective assets affecting business practice, such as elementary and secondary education, physical infrastructure, natural resources, and health care.

- Help SUNY formulate regional and statewide priorities for responding to these specialized needs, especially through training, research, education, and information dissemination.

- Work with community colleges and colleges of technology to select training programs that respond to county-wide trends, while also helping SUNY units coordinate programs and develop specializations that serve their regions and the state as a whole.

- Create intensive training and educational strategies targeted at economically distressed areas and educationally disadvantaged groups.

- Provide analyses and information, including information maintained in computerized databases, to SUNY (and groupings of regional SUNY units) so they can establish economic priorities that direct resources toward fields, disciplines, or programs identified as being critical to the state's economy.

- Serve to bring together faculty and students from various campuses who are conducting research on, or providing service to, the region.

- Coordinate with strategic planning entities in other regions to develop topical specializations that serve statewide needs.

Though located on one campus, each regional strategic planning organization would report to a governing board consisting of presidents of the region's SUNY units. The governing board would be encouraged to invite representatives of industry and of economic development agencies to serve on the board.

INITIATIVE 2
Encourage Self-Assessments by the Disciplines

SUNY should establish incentives that encourage selected disciplines to examine how their teaching and research can respond to the state's changing economy. Through these self-assessments, they should adapt research, hiring, and pedagogy to state needs.

For example, programs in business management in some universities have conducted such strategic self-assessments. Assessments could also be conducted in engineering, teacher education and educational administration, foreign language and international studies, the health-related professions, and interdisciplinary liberal arts programs. A particularly desirable outcome of such assessments would be the reshaping of programs so they combine liberal and professional (or vocational) education.

The discipline-specific initiatives suggested below should include such disciplinary self-assessments.

INITIATIVE 3
Strengthen International Education

SUNY should endeavor to strengthen international studies at all levels.

When the United States led the world with its wealth and faced relatively little foreign competition, New Yorkers could afford to be less internationally aware than were citizens of Japan and Europe. But in the global economy, New Yorkers' abilities to comprehend other nations are more critical than ever before.

SUNY should strengthen international knowledge by cultivating foreign language studies, international educational exchange, international area studies, studies of international business and marketing, programs in comparative and international affairs (such as international law, trade, public policy, health care, environmental studies), and the teaching of international studies. It should also strengthen associated programs of research and faculty scholarship.

- SUNY should consider designating "World Area Centers" on SUNY campuses. The campuses so designated would develop special foreign language training, research capabilities, and library collections on specific areas of the world. The centers would constitute a SUNY network of educational, training, and information resources for students—and for New York firms interested in expanding their international business. SUNY designations should respect existing centers of world-area specialization in New York's public and private academic institutions.

- One or more colleges of arts and sciences should consider an explicit decision to become an international campus. Requirements for students might include a full-year foreign language immersion experience.

- Strategies to strengthen international studies should recognize the international expertise in science, engineering, and medical faculties. Large proportions of the members of these faculties are foreign born, speak foreign languages, or conduct international research projects. Undergraduate and graduate students should be encouraged to acquire the foreign language skills and international awareness that will allow them to continue developing international relationships in science and technology.

INITIATIVE 4
Strengthen Science, Mathematics, Engineering, Education, Training, and Research

SUNY university centers must receive the resources to maintain their capabilities in advanced research. Significant investment in the university centers will be necessary.

New York's global economic standing in most fields depends on the technological capacities of the state's businesses. European and East Asian nations have typically stressed science and engineering education more than American higher education has. Public institutions of higher education in New York can take the lead in redressing the balance. If they are to do so, difficult decisions have to be made to direct scarce resources toward science and engineering education, advanced research, and technical training.

SUNY should undertake initiatives both to selectively specialize in new emerging technological fields (see Initiative 5 below) and to strengthen general competence in science and technology.

- To develop general competence, SUNY units should consider developing undergraduate curricula in science and technology studies (or Science, Technology, and Society). The programs should emphasize the development of educated competence in fields of science and engineering, along with studies of the history, ethics, economics, and politics of science.

- A college of arts and science should consider developing a comprehensive identity in liberal education devoted to science and engineering. The program should be directed primarily at students intending to enter fields of professional endeavor other than science and engineering.

These programs would prepare students to go on to study other fields at more advanced levels—say business, law, or graduate-level humanities and social sciences—with a broad appreciation of the roles of science and technology in the contemporary world.

INITIATIVE 5
Build Capabilities in Technologies Critical to New York State

SUNY should convene industry-government-university conferences around selected technological fields to plan for building or expanding SUNY centers of specialized technological capability—as recommended by the Policy Steering Committee of the Governor's Conference on Science and Engineering Education, Research, and Development.[3]

The technological fields should be strategically chosen to complement critical needs in New York's industries. Given the large SUNY investment in health-related research and education, biomedical research may offer particular opportunities for SUNY to contribute to the technological competitiveness of the pharmaceutical, medical instrument, health-care product, and related industries.

A particularly urgent reason to build SUNY technological capabilities is that the decline of military research investment will (despite federal budget deficits) very likely result in significant increases in federal funding for generic, industry-related civilian research. As in the past, the academic institutions that will receive this funding in open competition are going to be those that build up genuine records of accomplishment in the relevant specializations.

As *SUNY 2000: A Vision for the New Century* stated, SUNY will "establish centers of excellence in new areas of enquiry where SUNY campuses, alone or in regional or national consortia, can attain world prominence in research in the 21st century."[4] The industry-university-government conferences should be convened rapidly to start the process by which SUNY builds these future technological specializations.

INITIATIVE 6
Develop Liberal Education for Versatility

SUNY should encourage faculties of liberal arts programs to assess how their programs teach students skills of critical inquiry, reasoning, judgment, and clear self-expression in speech and writing.

In a time when technology, occupational opportunity, and international competition are all changing rapidly, colleges and universities can increasingly reaffirm their traditional roles of providing a liberal education that develops personal intellectual capabilities. But that economic role also challenges the liberal arts and interdisciplinary programs. To respond to this challenge, SUNY should

- establish incentives that encourage liberal arts programs to develop curricula that produce such versatile graduates; and

- encourage the development of undergraduate programs that combine liberal and vocational studies or are built around the consideration of contemporary problems. For example: video and cinema programs built around critical studies of contemporary culture; social science programs focusing on urban problems; and undergraduate business programs stressing studies of ethics and the roles of business in society.

INITIATIVE 7
Build SUNY's Capacity to Provide Lifelong Education

SUNY should survey current programs for educational upgrading and lifelong education within SUNY, and identify innovative programs around the country. The proposed SUNY regional strategic planning efforts should conduct studies and engage in conversations with industrial and labor representatives to identify needs

for educational upgrading. Results should be used to identify high-priority programs (for example, one-year engineering masters degrees for practicing engineers) that would best serve the state's workforce. SUNY should provide incentives that encourage its units to adopt programs of lifelong learning identified through the survey or through SUNY regional strategic planning.

As SUNY should cultivate programs of liberal education for versatility, it must also continue to educate and train students in specialized fields whose practical uses will not last through their working life. *SUNY 2000: A Vision for the New Century* recognized the need to encourage opportunities for lifelong education that can help New Yorkers retrain to meet rapidly changing opportunities.[5] Programs of lifelong education and short courses not only serve an important state need but also have the potential of generating additional income for the SUNY units that conduct them.

INITIATIVE 8
Strengthen, Coordinate, and Develop Guidelines for Training Programs around the State

SUNY should strengthen and consolidate training activities around the state.

At a time when the numbers of well-paying jobs have declined for those with lower educational attainments, postsecondary training through community colleges and colleges of technology can be a crucial path to better incomes for those who have been educationally disadvantaged. At the same time, the proper selection and design of these training programs is essential to the state's economic competitiveness.

SUNY has already responded to changing needs for training by offering an expanding range of vocational courses, certificates, diplomas, and associate degree programs in numerous technical fields and occupations, along with contract courses tailored to employers' needs (though contract courses no longer receive state funds as of 1992).

- Through research, analysis, and interactions with representatives from industry, the SUNY regional strategic planning entities (Initiative #1) should help SUNY units strategically select, develop, enlarge, or discontinue training programs in response to regional economic needs.

- *SUNY should encourage consolidation and coordination of training programs, especially at a regional level.* Some programs respond specifically to occupational opportunities within one county. Other programs can cost-effectively serve a region's economy through the development of specializations among the region's SUNY units. Still other programs develop specialized faculty, laboratories, and equipment that can be of service in providing specialized instruction to students from around the state. *SUNY should provide mechanisms for coordinating and consolidating training programs at the appropriate regional or statewide scale.*

- In response to rapid industrial change, numerous kinds of organizations now provide training. SUNY should prepare guidelines that help SUNY units make decisions on the kinds of training that:
  - belong primarily in institutions of higher education;
  - ought to be provided exclusively by private firms or should be fully paid for by private firms (for example, if likely to provide highly firm-specific skills or if the firm can expect to capture the benefits of training); and
  - ought to be offered through various combinations of both. The guidelines should also provide principles on appropriate occasions for custom training, apprenticeships, on-the-job learning for college credit, and other means of college-industry training collaboration.

INITIATIVE 9
Integrate Apprenticeships and Other On-The-Job Educational Experiences with Community College Training

SUNY should foster the integration of apprenticeships and other on-the-job educational experiences with community college training.

New York State has seen the spread of a vast number of training programs run by numerous state, local, and federal organizations. Many operate on a postsecondary level without being formally integrated into college instruction.

In New York and other states, as compared to U.S. competitors such as Germany, apprenticeship programs in particular have frequently been divorced from formal education and have often stagnated. Few apprenticeship programs have been set up in new technologies, trades, and industries, such as the service industries. Yet apprenticeships offer recognized models of integrating education with work experience and of providing good jobs after the completion of studies.

SUNY should start the initiative to coordinate with the New York State Department of Labor and possibly assume primary responsibility for apprenticeships in collaboration with employers and trade unions. (A few SUNY community colleges already participate in apprenticeship programs). SUNY should strive to improve the reputation of apprenticeships, increase enrollments in them, and plan for the development of new programs in fields that have not traditionally benefitted from apprenticeships.

SUNY units should also expand their involvement in cooperative education, internships, on-the-job training and other forms of education that combine academic study with on-the-job experience.

INITIATIVE 10
Encourage SUNY's Professional Programs to Address Critical State Concerns

SUNY professional programs should be encouraged to undertake statewide self-assessments. They should identify priorities for directing research, scholarship, and education toward serving the state's needs.

SUNY's professional programs are germane to some of the central concerns of New York businesses: health care, elementary and secondary education, litigation, environmental policy, and the deteriorating conditions of the state's physical infrastructure. If properly leveraged, the programs can conduct the education, research, training, and information dissemination that can help the state make significant headway in tackling these difficult issues.

For example, programs in engineering and public administration have the research capabilities to find innovative solutions to problems of providing public infrastructure in times of fiscal stringency. Programs in law have capacities to investigate forms of dispute-resolution that can offer to New York's firms alternatives to expensive litigation.

Numerous SUNY programs in environmental science, pollution abatement, atmospheric research, engineering, and the biological and social sciences are engaged in research and teaching on environmental issues. They can bring to bear a wealth of knowledge for adapting industrial activity to New Yorkers' demands for clean air and water and for preserving forests and wildlife.

Moreover, SUNY's university centers and colleges of arts and science are the premier sources of New York's teachers.

Problems of the state's economic competitiveness have been attributed in part to shortfalls in primary and secondary educational attainment. By teaching the teachers, SUNY is able to influence the quality of education provided in the state's public and private primary and secondary schools. SUNY programs in education should particularly endeavor to:

- encourage students to become—and strengthen the preparation of—teachers of science and mathematics;

- conduct research on, and adapt teaching to, the changing roles of vocational education in secondary schools;

- engage in upgrading and retraining practicing teachers, but without necessarily further increasing levels of credentials.

SUNY's professional schools have the resources to convey the skills, ethical principles, and visions by which their graduates can tackle infrastructure, litigation, environmental, and human resource problems troubling New York's firms. The initiative below suggests similar steps for professional programs in health care.

INITIATIVE 11
Leverage SUNY's Professional Health-Care Programs

SUNY should take advantage of its health care expertise to find means of controlling costs, increasing accessibility, and enhancing quality in the health care system.

New York's aging population (one of the oldest populations in the country), the disproportionately high incidence of serious illness among ethnic minorities who are poor, drug and alcohol abuse, the AIDS pandemic, and the general U.S. crisis in health-care administration have placed unprecedented stress on the state's health care system. Health care providers find it ever more difficult to simultaneously contain costs and increase quality and accessibility. The burdens of health care have become a critical competitive problem for New York's firms.

With four health science centers (including schools of medicine and dentistry), nursing programs in colleges throughout the state, and programs in allied health professions, health care technologies, and public health, SUNY is the state's premier provider of health care education and research. SUNY should provide incentives to leverage this expertise to help the state respond to this health care crisis.

INITIATIVE 12
Facilitate the Participation of Women and Underrepresented Minorities in Higher Education

SUNY should continue and strengthen its efforts to remove obstacles to the participation of women, minorities, and economically disadvantaged students in higher education.

At the turn of the century, ever larger percentages of the state's workforce consist of minorities and women, many of whom are poor, may have dependents, lack the family support that helps more fortunate students, and must work part time while pursuing studies. At the same time, technological changes, international competition, and new forms of workplace organization are increasing the demands for a skilled and versatile workforce. Therefore, initiatives to increase the participation of women and underrepresented minorities in higher education simultaneously serve values of social justice and of competitiveness.

SUNY should build on its past accomplishments in providing:

- high-quality and affordable child care that is flexible enough to respond to student class schedules,
- health coverage that includes dependents, and
- expanded opportunities for part-time and continuing study.

INITIATIVE 13
Develop Closer Links among Education, Research, Training, Outreach, and Information Dissemination Directed at Entrepreneurship and Small Business

SUNY should review and refine its many programs directed at entrepreneurship and small business, especially by creating closer links among education, research, training, and outreach programs.

Entrepreneurship and small business are among the dynamic driving forces in the state's economy. SUNY units around the state conduct numerous programs relevant to entrepreneurs and to small business. Among the most successful programs is the Small Business Development Center, which provides a network of state service centers located on college and university campuses that assist entrepreneurs and small business owners to resolve problems, increase productivity, expand start-up ventures, and thus improve profitability and competitiveness. Other programs include evening courses, technology extension services, special training sessions, and industry- and trade-specific certificate and degree programs, as well as two-year, four-year, and graduate degree programs in management and business. SUNY faculty members in a variety of fields, from management to computer science and engineering, conduct research or have expertise that would benefit New York's small businesses.

SUNY or regional strategic planning entities should review programs relevant to small businesses and entrepreneurs to assure that they reflect an appropriate balance among research, education, training, short courses, information dissemination, and technological extension.

INITIATIVE 14
Provide Comprehensive Information on SUNY's Training Programs, Information and Outreach Services, and Research Activities

SUNY should establish a comprehensive database and published directory of training programs, advisory services, public service activities, and technology-transfer services.

When carefully and selectively developed, a variety of informational and outreach services can intensify the contributions that SUNY makes to its regions through its core activities of education, research, and training. An up-to-date inventory and database of these SUNY activities would serve several valuable ends:

- provide a guide to students and businesses on available offerings around the state and each region;
- illustrate the wealth of public service activities that SUNY units provide;
- help SUNY demonstrate to its stakeholders the extent of its offerings;
- provide, throughout SUNY, information that would help in coordinating programs (Initiatives 8 and 13) and prevent unnecessary duplication; and
- facilitate comprehensive regional strategic planning of training programs.

In addition, *SUNY should consider expanding an existing database on research activities (part of a nationwide database), in which two university centers now participate, to include all SUNY units that conduct research.* This SUNY-wide resource would help the state's businesses identify potential sources of specialized assistance and research collaboration, and would help SUNY researchers identify others with shared interests within the university system.

INITIATIVE 15
Adapt SUNY Economic Development Strategies to Regional Needs

SUNY should strengthen lines of authority and accountability in regional economic development initiatives. SUNY units serving New York City should engage in economic development initiatives cooperatively with the City University of New York.

The challenges of global competition, technological change, and demographic transition are affecting each of the state's economic development regions differently. The strategies that SUNY formulates for responding should be adapted to the needs of each region.

SUNY has already embarked on such an approach through a partnership arrangement with the New York State Department of Economic Development. It will be implemented on a regional level through collaboration between the region's SUNY units and regional economic development working groups. The regional committees that worked alongside the State Needs Task Group on Economic Development also express, through their reports, regional perspectives on SUNY's economic development roles.

SUNY should formally recognize that regional groupings of SUNY campuses play critical roles in economic development. Regional strategic planning entities (Initiative 1) can play a particularly crucial role in assuring that each region develops educational, research, and outreach priorities for economic development through informed planning and consultation. Those SUNY units serving New York City should cooperate toward these ends with the City University of New York.

The Transformation of New York's Economy

New York's economic predicament occurs at the culmination of over a decade of profound, simultaneous, overlapping, and poorly understood changes

As this report is being written in 1992, the state is still in the midst of a severe and prolonged recession. Between 1989 and 1992, the state's rate of job loss was the highest in half a century. The recession lasted far longer than any of nine prior recessions.[6] New York can be expected to be part of any national economic downturn, but this recession was especially troubling because it started earlier here than in the country as a whole and was more severe than in almost all other states.

Few can confidently diagnose the causes of this recession, much less anticipate the shape of the state's future economy. What does seem clear, however, is that New York's economic predicament in the early 1990s occurs at the culmination of over a decade of profound, simultaneous, overlapping, and poorly understood changes.

The character of these changes is the subject of much controversy. The rise of the new global competition, the transition from hierarchical management to new forms of flexible specialization, the emergence of revolutionary new technologies, the growth of the information economy, increasing economic pressures on the natural environment, and a great demographic transition brought about by the aging of the baby boom generation—these and other trends seem to characterize our times.

The years to come may well show that some of these trends were far less important than we thought or have already been surpassed. But whatever the durability of any particular trend, their combined effects pose a profound challenge to New York's economy and, in large part, this is a challenge to higher education. Our future economic prospects hinge on how well we respond.

Globalization

In *SUNY 2000: A Vision for the New Century* it was observed that we can forecast with certainty only a world of uncertainty and change, though we can identify some long-term trends, the most dramatic being the continuing movement toward global interdependence.

A correlate of this trend is the rapid ascendance of international competition, especially from Europe and East Asia, in several industries in which New York was once strong or dominant. Some of the most anguishing economic changes of the 1980s, including the declines of the state's steel, auto parts, and consumer electronics industries, can be directly traced to this competition. Even industries traditionally accustomed to competing within their geographical region, like printing or construction, are starting to feel the effects of outside competition.

Some of New York's industries do well in international markets—New York products ranging from photocopy machines to pharmaceuticals are sold throughout the world. But the worldwide expansion of some of New York's industries, along with the contraction or disappearance of others, has caused wrenching dislocations. In the early 1970s, in New York and the rest of the United States, less than 25 percent of the goods sold were subject to competition from imports. Since the mid-1980s, that percentage has exceeded 75 percent.[7] By the 1990s, the state's industries producing tradeable non-defense products (whether goods or services) in effect operate in international markets.

Low-cost international transportation and communication, and the development of reliable international standards for business practice, also have another consequence for the economy: routine production can be moved to areas with low labor costs, including countries of the Third World. Such plant movements out of New York have long occurred in assembly operations, like traditional garment manufacture. Since the 1980s, however, service firms have also been shifting parts of their operations to low-cost areas. Banks' and insurance companies' back-office work moved from New York City—sometimes to in-state destinations like Utica, but often further afield, to Ireland or the anglophone Caribbean.

New York City has, of course, long been the global metropolis: the magnet for ethnic groups and nationalities, the headquarters of the United Nations. Its status as an international city grew in the 1980s: international air passenger traffic, international tourism, and foreign direct investment in the city all increased rapidly.[8] Even after the stock market crashes of 1987 and 1989, New York City continued as a world leader in advanced services.[9] But the same decade also saw the rise of competing global cities, primarily London and Tokyo. The commercial dynamism around the Pacific basin came to outweigh the importance of U.S. commercial relations with Europe. And North American competitors for international business services emerged on the west coast, in San Francisco and Vancouver. At the end of the century, though New York City remains the premier global city, it has to work ever harder to preserve that status.

Though New York City remains the premier global city, it has to work ever harder to preserve that status

Upstate New York has also been developing an international identity, though slowly and tenuously. The Rochester area has led the way in upstate exports, specializing in products based on advanced optics and imaging technologies.[10]

In the wake of the passage of the U.S.-Canadian Free Trade Act, the Buffalo and Niagara Falls area could take advantage of its location as the most important Eastern U.S. land-bridge to Canada. Though not as many Canadian firms have established Buffalo area branches as initially expected, Western New York and Southern Ontario have come to be closely tied together in a variety of trading relationships. According to some studies, Western New York is in effect being integrated into the Greater Toronto economic region.[11] (Similarly, though on a smaller scale, Plattsburgh and its vicinity are being tied into the Montreal economy.) Western New York's hosting of the World University Games can be expected to further enhance the area's international reputation.

Upstate regions, too, are developing international standing, but it is necessarily more specialized and limited

Therefore, upstate regions, too, are developing international standing, but it is necessarily more specialized and limited. Few upstate airports receive appreciable numbers of international visitors, with the exception of visitors to Niagara Falls going through the Greater Buffalo International Airport. Unless they are themselves immigrants, upstate New Yorkers, like other Americans, are likely to lag behind citizens of major industrialized countries in foreign language skills and world geographical knowledge.[12] New York's regions outside New York City have only started developing distinct and focused global identities.

The monumental event of the late 20th century, the opening up of the post-communist regimes to world markets, presages further economic internationalization. Concomitant decreases in U.S. military spending are also displacing those centers of research and production, especially on Long Island, that supported U.S. military preparedness in the cold war years. At the same time, the development of continental trading blocks is changing the shape of international trade in North America and Europe. In ever varied ways, world markets continue to pose the most critical challenge to New York's economy.

A consequence of this globalization is that advanced education and training have become crucial to the state's economic future. As comparative international studies of educational attainment have shown, many countries have surpassed the U.S. in secondary education, in technical training, and in transmitting basic skills.[13] Ongoing educational improvements abroad make it essential for New York to maintain its traditions of world leadership in higher education.

Globalization makes a demand not only on the quality of higher education, but on the content

Globalization makes a demand, however, not only on the quality of higher education, but on the content. In the midst of a global economy, an ever wider array of post-secondary students need foreign language skills, an appreciation of foreign cultures, exposure to foreign study, background in international business practices, and an understanding of world geography. Simultaneously, universities should deepen and strengthen their research capabilities in foreign language instruction, international trade, comparative economics and public policy, and area studies. The globalization of manufacturing, services, and trade imposes responsibilities on academic institutions to prepare a generation of New Yorkers for work in an international economy.

From Taylorism to Flexible Specialization

The concluding decades of the twentieth century brought the partial breakdown of the hierarchical forms of business organization

In New York as in the rest of the country, the concluding decades of the twentieth century brought the partial breakdown of the hierarchical forms of business organization that characterized modern mass production. This bureaucratic organization of business was associated with Frederick Winslow Taylor, the classic proponent of routinized efficiency in the workplace, and with Henry Ford, the entrepreneur who built his fortune on the assembly line—hence the terms "Taylorism" or "Fordism" to describe this kind of workplace organization.[14]

Taylorism rested on long production runs of identical items, the division of the production process into simple and routine tasks, rigid job categories, the separation of the white collar staff from the blue collar line, and union-management confrontation.

In many (not all) manufacturing and service industries, this bureaucratic form of organization has been dissolving. This has occurred in part because markets for standardized goods and services have become saturated. As incomes increased, consumers demanded products more specifically suited to tastes that varied by ethnicity, age, occupation, and changing fashion. At the same time, international competitors and new domestic firms sought to break into entrenched markets by targeting specialized market niches.

More and more firms could now survive only if they planned on short production runs, invested in equipment that could perform more varied tasks, and introduced new products more rapidly. Companies could facilitate such change by relying more on computer technology to keep track of and adjust their operations and by involving engineers and designers more closely in production. To produce higher quality products in greater variety, and for shorter runs, business firms had to experiment with more complex forms of production. Managers could no longer run such firms well if they insisted on doing so through hierarchical administration.

These forces have led in some industries to the vertical disintegration of firms. Some firms sought to decentralize their operations to subcontractors—suppliers of services and components. Contrary to the expectations of the early 1980s that robots would take over the workplace, these forces have also led numerous industries, ranging from banking to garment manufacture, to rediscover the competitive advantages of a versatile workforce.[15]

In other cases, the advantages of flexibility were achieved through the interactions among firms within regions.[16] In parts of the world, such as Northern Italy and Silicon Valley, complexes of entrepreneurial firms arose, these firms depending on

The shift to flexible specialization adds to the importance of workforce education and training

their access to each other to respond quickly to market changes. Long Island appears to have come the closest in New York to becoming such a region.[17]

The shift to flexible specialization adds to the importance of workforce education and training at the end of the twentieth century. Workers do not, as a consequence, necessarily need higher academic degrees. Probably no larger proportion of the population needs post-secondary education than did in previous decades. For the approximately two-thirds of the workforce that does require post-secondary preparation, the premium is on two often contrasting accomplishments:

- literacy, numeracy, ability to communicate, and ability to learn new skills—the very rationale of a liberal education; and
- timeliness and responsiveness in the provision of technical instruction. Since the 1980s, the demand for such responsive programs has spawned a vast variety of innovative programs, many of them operated through complex public-private partnership arrangements.

Technological Transformations

In the last decades of the twentieth century, radical new technologies reshaped nearly every aspect of business enterprise. The outstanding example was microelectronics. The advent of microelectronics represented a "gale of creative destruction" that destabilized New York's industries, harming some, giving opportunities to others.[18] The consumer electronics industry failed to keep up and was severely damaged; makers of photocopy machines were slow to respond and lost market shares until they adjusted; and makers of computers and software benefitted greatly. Not just the manufacturers of goods containing microelectronic components, but business of every kind found that success depended on their abilities to incorporate advanced microelectronics —primarily computing and telecommunications—into their operations.

At the turn of the century, microelectronics continues to be the most important, but by no means the only, technological challenge to the state's economy. A cluster of technologies collectively known as "photonics" and including fiber optics, lasers, optoelectronics, and imaging looms as a technological field of broad application in numerous industries.[19] Biotechnology has also started to have its long-anticipated commercial effects in pharmaceuticals, agriculture, veterinary medicine, and chemical industries. And other technological developments are gaining momentum, including new composites and advanced ceramics.[20]

As New York firms strive to keep up with these changes, they are also among the technological innovators causing them. New York companies maintain laboratory facilities that are among the nation's largest, including those of the General Electric Company in Schenectady, the Eastman Kodak Company and Xerox Corporation in Rochester, Mobil Chemical Company in Macedon, IBM in Yorktown Heights, Corning and IBM in the state's southern tier, Brookhaven Laboratories on Long Island, and Calspan in Buffalo. New York State continues to lead most other states in the proportions of its population who are scientists, engineers, or technicians. New York companies rely on the state's public and private research universities for advanced research capabilities and for maintaining a technologically sophisticated workforce.

At the turn of the century, New York companies must maintain technological advantage over a much larger and more varied group of competitors than in decades past. These competing companies invest heavily in research and development, often benefit from national policies that target selected technologies for intensified development, and reside in countries that significantly exceed the U.S. in percentages of GNP devoted to civilian R&D.[21]

In these conditions of intensified global competition, the technological tasks for New York companies are far more daunting than ever before. As a result, institutions of higher education face increased responsibilities in advanced research, science and engineering education, and technical training:

- Though engineering and science faculties often require high salaries, and laboratory equipment is expensive and short in lifespan, universities must continue making these investments if they are to lead the way in science and engineering.

- While advanced research could once be pursued within the confines of longstanding science and engineering disciplines, new developments frequently entail the creation of multidisciplinary centers and hybrid fields like neuroengineering, surface and membrane biology, and optoelectronics.

- Since there are too many emerging technical fields for any university to encompass, each must build specialized strengths. The decision on specialization must rest on complex and difficult considerations, such as institutional capability, availability of funding, specializations of competing institutions, and regional and state needs.

New York companies must maintain technological advantage over a much larger and more varied group of competitors

- Community colleges have to produce ever newer technical curricula and certificate programs, despite the difficulties of maintaining appropriate facilities and retaining qualified faculty.

- And all academic institutions have to find ways not only of educating new entrants to the workforce but of upgrading the skills of engineers, applied scientists, and other technical professionals who were first educated years earlier.

The Service Economy and Beyond

As is now well known, New York's service industries grew in the 1970s and 1980s while manufacturing stagnated or declined. Some of this growth produced routine low-paying service jobs like data entry and cafeteria service.

But the producer services, which provide services to business and government, generate well-paying professional employment in the state.[22] The producer services include banking, financial securities, insurance, advertising, legal services, engineering services, public relations, and computer services. The mass media, tourism, and membership organizations (many headquartered in New York City) also brought employment growth in the 1980s.

The rise of the service industries was seen by some as an inevitable economic sea-change

New York firms engaged in some fields, like management consulting and advertising, which provided their services to clients outside the state, thereby helping the state's balance of trade with the rest of the nation and the world. These export services also developed outside of New York City, as in Western New York, though on a far smaller scale.[23]

The service industries grew in part because, by the second half of the century, consumer demand for manufactured goods could be satisfied through highly productive manufacturing plants, while increased demand for services typically required the hiring of more service employees. Services also grew because of greater government regulation, more litigation, greater consumer demands for safety, and the very tendencies already discussed above—globalization, flexible specialization, technological change—made business life vastly more complicated. Computer maintenance, advertising, and other activities once directly carried out within businesses were now ever more commonly purchased from specialized service firms.

The rise of the service industries was seen by some as an inevitable economic sea-change, of the kind that transformed the United States from a rural and agricultural economy to an urban and industrial one in the early 20th century. Others held

Activities that involve the handling of information continue to dominate business and employment

that service firms invested much less than manufacturers in research and development, that they could never become major sources of export earnings, and that many service activities took place in interrelationship with manufacturing, so that an excessive dependence on the service economy could eventually prove to be harmful.[24]

By the turn of the century, the debate may become moot, however, since the rise of the service economy may have levelled off. The recession that began in 1990 was the first in many years in which there were widespread layoffs in wholesale and retail trade and the white-collar occupations.[25] Many feared that advances in computer technology and general corporate retrenchment would mean the elimination of many middle-management jobs. And, in banking and financial services, as in other fields, international competition had intensified, making it ever more difficult for New York City to maintain its premier position in producer services.

Yet, even if the service economy is reaching its plateau, the activities that involve the handling of information continue to dominate business and employment. Of the five service industries projected to grow the fastest in the 1990s, the top four are information industries: electronic information services, computer software, computer professional services, and data processing (with health care being the fifth fastest).[26] Information-related employment increasingly suffuses the work of nearly every sector, mining as well as finance, manufacturing as well as education.[27]

At the turn of the century, ever more New Yorkers must contend as part of their job with the collection, processing, storage, retrieval, display, representation, duplication, and transmission of information. Advanced information technologies are therefore all the more integrated into work life. At the same time, New Yorkers must, as part of their job, not only manipulate data but make sense of ideas and arguments: they must comprehend, interpret, and explain complex ideas to others, as well as exercise creativity on the job.

The pervasive importance of information handling to every industry continues to challenge higher education:

- University departments of computer science and electronic engineering must continue to take the lead in the development of advanced technologies of computing, imaging, and telecommunications.

- Technical programs in two-year and four-year colleges must further build their capacity to prepare students (and upgrade professionals) who can operate, maintain, and repair an ever more diverse array of complex equipment.

- As never before, academic institutions must convey an appreciation of influential ideas of the past, and thereby the insight, discernment, and reasoning to critically assess ideas of the future.

- At the same time, academic institutions have to produce graduates who use computing power not just for routine activities but to extend and enhance their creativity.

The Economy of Images

The twentieth century ends with the ever growing economic importance of industries that specialize in the manipulation of images and experiences.[28] At the start of the new century, the mass media and accessory businesses may have the economic role that factories and merchant trading houses had in previous eras. Whereas many more traditional American industries are declining in world competition, those that produce popular culture and entertainment continue to be the world's leaders.

New York industries that specialize in the production of images include television, radio, cable, publishing, advertising, movie production, public relations, and associated video and talent services, and perhaps the fashion industry. The capacity to create an image that sells a product or service has become crucial to most other industries as well, industries that must themselves hire the personnel that can design and maintain images. Moreover, a growing industry in the late twentieth century specializes in responding to demands for experiences— such as tourism, architecture and design, and entertainment businesses.

While American industries are declining in world competition, those that produce popular culture and entertainment continue to be the world's leaders

Therefore, at the turn of the century, the sources of New York's economic advantage may reside in a generation's imagination. Institutions of higher education have to supply economically important education in subjects once considered frivolous—subjects like television, tourism studies, cinema and video, graphic design, fashion, and advertising. In a time when New Yorkers make economically important choices of career and consumption in a confusing world suffused by the media, colleges and universities must also teach students the capabilities to critically reflect upon the images influencing their lives.

Reconciling the Economy and Environment

New Yorkers must respond to a panoply of poorly understood economic changes, at the same time that they are also coming to terms with the environmental legacy of a century of economic growth. New Yorkers must confront the environmental effects of their activities not just because of the popularity of environmental issues or the practical fact of stricter environmental regulation. Rather, the days when the economy itself can tolerate unbridled pollution and the exploitation of land are passing with the twentieth century.

The days when the economy itself can tolerate unbridled pollution and the exploitation of land are passing

At the turn of the century, even the smallest companies have to reduce, recycle and more cost-effectively dispose of solid waste and toxic waste. They have to monitor, control, and strive to reduce water-borne and air-borne emissions. Companies find it more and more difficult to escape such responsibility by turning one form of pollution into another, as by incinerating solid waste to produce air-borne waste. As environmental constraints intensify, environmental action within companies is becoming not just an accessory activity in response to public regulation, but is slowly being integrated into the ways that products and processes are designed and engineered.

New Yorkers are also seeking more effective means of disposing of municipal waste, arranging the remediation of polluted sites, and sustaining the viability of forests, estuaries, river valleys, and wildlife. To find means of reconciling economic and environmental pressures, New York State has to have the finest in environmental science, natural resources planning, atmospheric research, waste management studies, and engineering education in which students learn how to design production systems that minimize waste.

Providing Collective Assets

At the end of the century, New York companies must survive intensely competitive world markets, while the collective assets—the public systems and infrastructures—they depend on are themselves in the midst of financial crisis, organizational change, and disrepair. These assets include systems of health care, elementary and secondary education, arrangements for litigation and adjudication, and the systems of physical infrastructure, such as roads, public water supply, and mass transit.

Complex, burgeoning bureaucracies manage these collective assets, at the end of a century in which federal, state, and local government took responsibility for an ever greater portion of the lives of New Yorkers.[29] Nongovernmental organizations of all kinds also arose to provide these services, resulting in the characteristic American provision of education and health care through complex combinations of private, public, nonprofit, and hybrid organizations.

SUNY's programs of professional education can serve as leverage points for reforming the health care, public education, and infrastructural systems that are troubling the state's economy

For many private firms competing in the world economy, survival at the end of the century depends on their ability to develop affordable health-care plans for employees, find employees who have adequate basic education in mathematics and reading, manage complex disputes without being burdened by excessive litigation costs, and gain access to water and wastewater systems, highways, mass transportation, and air travel.

Throughout most of the century, developments in these systems could be assured simply through the investment of more public funds. But the late twentieth century is a time of fiscal stringency. New York's governments and nonprofit organizations face the challenge of finding innovative and efficient ways of providing these collective assets.

Colleges and universities conduct the research on techniques for tackling these seemingly intractable problems and teach those who are the future practitioners:

- nurses, physicians, hospital administrators, medical technicians, and other health-related professionals who staff the state's health care systems;
- teachers, counselors, and school administrators who staff the state's elementary and secondary schools;
- lawyers, justices, and legal assistants who run the justice system; and
- architects, engineers, transportation managers, and public administrators who develop New York's systems of public infrastructure.

SUNY professional schools and training programs have long played the critical role of preparing and certifying New York's professional practitioners in these fields. Through research, scholarship, and teaching, SUNY's programs of professional education can also serve as leverage points for reforming the health care, public education, and infrastructural systems that are troubling the state's economy.

The Demographic Transition

New York is experiencing the preceding trends at the same time that it is undergoing a massive demographic transition: the aging of the baby boom generation. This superficially simple trend has several critical implications for the economy and for education.

New York employers will find that a lower percentage of their job applicants are first-time entrants into the labor force

First, the numbers of new entrants into the labor force are declining, both in absolute numbers and in percentage terms. Whereas 20 to 24 year olds constituted 12.4 percent of the labor force in 1987, the age group's share of the labor force is projected to decline to 8.7 percent by 2000. This is a decline of over 235,000 persons.[30] New York employers will find that a lower percentage of their job applicants are first-time entrants into the labor force.

Second, if present trends continue, women's entry in the labor force will continue to increase, but will be levelling off. Much of the expected increase in the state's civilian labor force will result not from population increases but from increased female participation.[31]

Third, the ethnic composition of the state's population is going through dramatic changes. At the end of the century, the state's whites of European descent (non-Hispanic whites) will make up only 60 percent of the state's population. The number of New Yorkers of European descent will drop to an estimated 11.7 million. The number of African-Americans will rise to 3.35 million and will be exceeded by 3.5 million Hispanics, who will make up almost 18 percent of the population. New Yorkers of Asian backgrounds will number over one million by 2000.[32]

Fourth, since the white population is aging at the same time that the ethnic balance is shifting, Hispanic- and African-Americans account for higher percentages of New York's younger age groups. Higher proportions of young entrants into the labor force consist of African-Americans, Hispanics, and Asians.[33]

Similar trends are occurring more slowly in the "balance of the state," in areas of the state other than New York City. In the balance of the state, non-Hispanic whites are declining to 75.5 percent of the population by the year 2000. African-Americans constitute just over 11 percent of the population, Hispanics 10 percent, and Asians 3 percent in that year. Altogether, at the turn of the century, nearly 25 percent of the population of upstate New York and Long Island consists of minorities.[34]

In the next century, therefore, New York's labor force will be shaped by women, older whites, and groups that have been historically disadvantaged in the economy. In 1989, Hispanic workers were disproportionately concentrated in declining industries. Whites were substantially more likely to hold managerial, professional, and technical support jobs (34 percent in 1989) than African-Americans (24 percent) and Hispanics (15 percent).[35]

In the next century, African-Americans and Hispanics will have to be brought into the economic mainstream, even though they have lagged in educational and occupational attainment in the past. And more students from both majority and

SUNY must confront the double challenges of the state's demographic changes and the world's global economic competitiveness

minority backgrounds will enter postsecondary education with children of their own and without the family support that sustained past generations of students. Colleges and universities will have to strive more than before to recruit and retain women, ethnic minorities, and the poor.[36]

Therefore, New York's economy is being challenged by unprecedented international, industrial, and technological changes, just as the number of young New Yorkers available for work is declining and includes an increasing proportion of Americans of African and Latino descent. As *SUNY 2000: A Vision for the New Century* stated it, "SUNY must confront the double challenges of the state's demographic changes and the world's global economic competitiveness."[37]

New York: A Commonwealth of Regions

A consequence of these trends, one not widely appreciated, is that New York's economic regions will be becoming ever more distinct:

- As the economy becomes internationalized, certain metropolitan areas become world economic centers. These global cities are the ones that have the concentrations of international businesses, support services (such as legal and banking services), telecommunications infrastructure, air-traffic facilities, and a cosmopolitan population acquainted with foreign languages and cultures.

- Amid the shift to flexible specialization, firms in some industries find that they have become more dependent on their regions. They rely on their regions for relationships with subcontractors, inside information on rapidly changing markets and technologies, specialized marketing and research, and a properly trained workforce.

- The rise of new technologies sometimes spurs the development of regional technological agglomerations, such as those associated with pharmaceuticals in Philadelphia and aerospace in the Orlando area. New York is also developing specialized technological agglomerations—ceramics in Western New York and the Southern Tier, advanced imaging in Rochester, advanced composites in the Albany area, waste remediation in Buffalo, telecommunications in New York City. More often than not, these technological regions develop complexes of research and training relationships between industrial firms and academic institutions.[38]

- For communications in which facsimile messages or videoconferencing are required, a Syracuse firm is no closer to New York City than to London or Vancouver. But for communications requiring person-to-person contact or for the development of specialized personnel, the same firm may find that its region is more essential than before. Despite the ubiquity of telecommunications, the information economy is also enhancing the importance of region and locality at the expense of the economic importance of nearby regions.
- If economic activity is to become environmentally sustainable in New York, roads, residences, offices, and factories will have to be better integrated into natural regions: the river valleys, catchment basins, mountain ranges and seashores that make up New York State.
- And the skills and educational attainments through which the labor force responds to these changes reflect demographic and occupational characteristics that vary widely among the state's regions. Considerations of community and ethnicity are becoming more important in determining the directions of each region's economy.

New York State has always had economically diverse regions. But globalization, the shift to flexible specialization, technological changes, and demographic trends are enhancing this diversity. Each region is developing a distinct industrial identity in the global economy.

Each region is developing a distinct industrial identity in the global economy

Therefore, at the turn of the century more than ever before, strategies for strengthening the state's economy through research, education, and training have to respond to unique regional conditions.

Advanced Knowledge in a Turbulent Economy

The trends outlined above are not all equally important, nor do they all point in the same directions. The global spread of the multinational corporation and the movement of plants to low-cost foreign sites is counterweighed by the disintegration of hierarchical firms and the development of flexible specialization. The growing economic dependence on services and information, which are less easily traded internationally than goods, weighs against the growth of international trade.

The growth of the information economy may decrease the need for environmental concern, since many information-related activities are environmentally benign. Fundamentalist and nationalist movements throughout the world threaten global interdependence. And greater immigration may significantly change the ethnic and age composition of the state's population. By observing selected economic tendencies in New York, this report does not predict that any single one will be dominant in shaping the state's future.

What is predictable, however, is that through the next century, these multiple transformations will be buffeting New York's economy to an unprecedented extent. Their combined effect is to make the traditional strengths of academic institutions—research, education, and training—more critical to the economy than ever before.

Through the next century, multiple transformations will buffet New York's economy to an unprecedented extent

Yet these trends do not necessarily mean that higher proportions of the workforce will require advanced degrees. Indeed, distribution of years of educational attainment in the labor force may change very little. According to a nationwide study conducted in 1989:

- About 34% of the 1989 workforce is employed in jobs that require less than a high school education.
- About 36% are employed in technical, supervisory, sales, craft, and data jobs that require basic education plus additional training amounting to less than a four-year college degree.
- And about 30% are employed in managerial, professional, and technical jobs requiring a four-year college degree or more.[39]

The study found that the proportion of jobs requiring a four-year degree or more is likely to increase. Otherwise, no major changes were expected in the distribution of necessary educational attainment in the labor force.[40]

While the economic transformations of the late twentieth century are challenging higher education, they are not, by and large, creating a need for raising the credentials of the labor force. Institutions of higher education have to respond not by increasing the percentages of the population with advanced credentials, but through difficult priority setting on what research specializations are pursued, what subjects are taught, and how well traditionally disadvantaged groups gain access to the fields of instruction.

The transformations that New York State is undergoing are increasing the economic importance of appropriate skill and advanced knowledge. In the words of Clark Kerr, quoted in *SUNY 2000: A Vision for the New Century,*

> What the railroads did for the second half of the last century and the automobile for the first half of this century may be done for the second half of this century by the knowledge industry: that is, to serve as the focal point for national growth. And the university is at the center of the knowledge process.[41]

Stated in 1965, Kerr's words are all the more relevant today. Higher education is the primary institution through which New York generates knowledge, integrates knowledge, diffuses knowledge, and shapes the distribution of advanced skill and knowledge in the population. Moreover, in these turbulent times, institutions of higher education must work harder to assure that the knowledge and skills they convey are appropriate to the state's changing economy. In exercising this public responsibility, SUNY has profound effects on New York State's economic development.

Higher Education in the Economy: Toward a Reassessment

In a time of ever more rapid economic change, when advanced knowledge has become central to almost every industry's ability to adjust to the world economy, many commentators on U.S. industrial competitiveness have pointed out the new and critical role that colleges and universities must play in the economy.

Michael E. Porter and a research team conducted one of the most thorough studies, an extensive multinational study of what makes selected industries successful in the world economy. Porter concludes that government has important roles of upgrading factors of production that industries require but cannot efficiently provide by themselves—factors such as skilled human resources, scientific knowledge, economic information, and public infrastructure.

"Nations gain advantage," Porter writes, "not as much from the factors available today as from the presence of unique institutional mechanisms to upgrade them continually."[42] He adds that in scientific and engineering knowledge this country already enjoys a significant advantage because "University research in the United States continues to be uniquely strong."[43] But while maintaining this advantage, the United States has to pay special attention to developing its capacities to educate and train the workforce. He writes as follows:

> There is little doubt from our research that education and training are decisive in national competitive advantage. The nations we studied that invest the most heavily in education (Germany, Japan, and Korea) had advantages in many industries that could be traced in part to human resources. What is even more telling is that in every nation, those industries that were most competitive were often those whose specialized investment in education and training had been unusually great...*Education and training constitute perhaps the single greatest long-term leverage point available to all levels of government in upgrading industry.*[44]

Recognizing their economic importance even before such studies appeared, hundreds of academic institutions, both public and private, in New York State and in the rest of the country, have since the 1980s experimented with ways of increasing their roles in economic development. They are taking on the critical role in advancing, extending, integrating, and conveying the knowledge needed to respond to a rapidly changing world economy.

To undertake this new economic role, educators have to come to terms with and surpass two ideas that have shaped American higher education since the nineteenth century.[45]

Traditional Conceptions of Higher Education

To Newman, colleges and universities better serve society by preserving their capacities for free inquiry

One of these ideas was articulated by John Henry Newman, the nineteenth Century Oxford scholar, who held that "There is a knowledge which is desirable, though nothing come of it, as being of itself a treasure, and a sufficient remuneration for years of labor."[46] To Newman and those he influenced, higher education was the fount and steward of civilization. History, the humanities, the pure sciences, and the professorate's freedom to engage in unhindered scholarly inquiry were, therefore, inherently valuable.

Arguing that Newman's ideas remain valid today, Jaroslav Pelikan, a recent interpreter of Newman, writes that Newman's ideas need to be sharpened. Newman can be understood to welcome the practical effects of higher education, while rejecting utilitarian tests for educational content, since

> a rigid application of the utilitarian criterion could deprive the next generation of the very means it will need for the tasks that it will face, which will not be the tasks that this generation faces and which cannot be dealt with by those particular instrumentalities that this generation has defined as "useful."[47]

To Newman and interpreters like Pelikan, then, colleges and universities better serve society by preserving their capacities for free inquiry and by passing on intellectual traditions, since these will best guide men and women in making the moral and practical decisions their lives will demand of them.

In the twentieth century, American colleges and universities, especially public ones, became the vehicles by which persons of all classes and ethnic backgrounds could seek to improve their lives

The other traditional notion of higher education reflects the 1862 Morrill Act, which established the American land-grant colleges

> to teach such branches of learning as are related to agriculture and the mechanical arts...in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

Colleges and universities are, by this conception, repositories of complex information and advanced skills. Their duty is to convey such learning to the broadest range of students so they can better carry out the nation's work in commerce, enterprise, and public service.

This latter idea of higher education found favor in the twentieth century, as American colleges and universities, especially public ones, became the vehicles by which persons of all classes and ethnic backgrounds could seek to improve their lives. In the wake of World War II, after atomic and radar researchers had demon-

In the 1980s, many came to see that universities and colleges could become strategic national or state assets

strated the capabilities of scientific research for serving national ends, universities came to be seen to have even further utility in their research functions. From the mid-twentieth century onwards, universities became the recipients of large-scale federal funding, especially for medical and defense research.

Contemporary American public colleges and universities, including the units of the SUNY system, strive to balance these two visions: Newman's idea of higher education as a steward of traditions and shaper of intellect, and the Morrill Act's conception of the values of higher education in transmitting useful skills. The tension between these ideas affects all levels of collegiate education, since community colleges as well as research universities must grapple, on the one hand, with conveying broad education in the disciplines and, on the other hand, with providing focused technical education for which there is demand.[48]

In the late twentieth century colleges and universities are faced with defining their roles in an economy undergoing fundamental transformation. They will have to better combine these two ideas of higher education, and even surpass them and articulate new visions, in order to respond to the new world economy.

The Rise of Academic Initiatives for Economic Development

Concerns about the economic value of higher education are not new. Educators and economists have long held that higher education is good for the economy. It was seen to advance the sciences and engineering, eventually allowing private firms to produce new products that improve standards of living. More generally, higher education was seen as a progressive force, providing the advanced education and credentials that would allow growing proportions of the population to improve their livelihood. These effects were understood to occur through routine educational and research activities.

It is only in the 1980s that many came to see that universities and colleges could become strategic national or state assets for building prosperity, but that they—and governments—would have to take steps to achieve this strategic role. Academic institutions came to be reconsidered in this way for reasons that were very clear: the industrial dislocations and problems of international competitiveness of the early 1980s. Colleges and universities were seen to be able to help resolve these problems for several reasons:

- Universities had proven to be innovators in advanced technological fields from biotechnology to microelectronics.

- Colleges and universities were sources of the advanced training that a changing economy demanded.
- There were perceived problems in translating university-based innovation into commercial products.
- Prosperous technology-oriented regions (Silicon Valley, Route 128, Princeton Corridor) had arisen in association with research universities.
- Public support of higher education came to be understood not primarily as an expenditure, but as an investment in the development of the nation's or state's technological know-how and human resources.
- Academic research had proven to be a remarkably rich source of innovation and learning. Often the most sophisticated technological knowledge resided in faculties of science, engineering, and medicine.
- And not least, at a time when other American institutions were being questioned, American colleges and universities had developed outstanding international reputations, drawing students from around the world.[49]

The 1980s saw the proliferation of initiatives that sought to link colleges and universities more closely to private business and industry

For such reasons, the 1980s saw the proliferation of initiatives that sought to link colleges and universities more closely to private business and industry. The National Science Foundation as well as state agencies, notably the New York State Science and Technology Foundation, started programs to encourage colleges and universities to engage in collaborative research with industry.

SUNY and other academic institutions established or encouraged industry-university joint research centers, applied research for industry clients, small business advisory services, custom-designed courses directed at the private sector, technology transfer offices, business incubators, and science parks. In just over a decade, public and private institutions of higher education, including SUNY, have come to provide a complicated network of informational, analytical, and instructional services for the sake of economic development.

These economic development efforts stressed the forging of linkages between academia and the establishment of administrative mechanisms for extending information to private-sector clients and beneficiaries. Like earlier agricultural extension services, many of these programs were staffed by newly hired professionals added to university and college payrolls, but rarely having direct teaching and research responsibilities. Many of these efforts conceived of higher education in the sense that the Morrill Act had over a century before—as a source of superior information and skill that could be extended to the commercial world.

The economic development programs of the 1980s added up to what can be considered the first wave; they created networks of programs for linking higher education and business. The programs of the 1980s rarely challenged core academic functions: the subjects of research and training, the implicit priority assignments in the funding of disciplines, and the development of new fields of study. And those advocating the new programs often did not ask fundamental questions about what it was in the first place that made American colleges and universities such productive sources of innovation for the private sector.

What indeed accounts for this productivity? Among the reasons that have been given are:

- the great variety of institutional and instructional types in the country, including the several levels of colleges and universities and the almost unique mixture of public and private higher education;
- the intense striving of faculty members for recognition and advancement through intellectual accomplishment;
- the competition among academic institutions and academic departments for students, faculty, grant funds, and prestige;
- the tradition of unifying the "university college" (derived from an English tradition), which provides a broad liberal education, with graduate faculties (derived from a German tradition) which combine educational and research objectives; and
- the institutions' relative intellectual autonomy—their freedom from external controls over scholarship and curriculum.[30]

The programs of the 1980s rarely challenged core academic functions

The combination of these characteristics has produced remarkable scientific, technological, and cultural innovation in this country. The university- and college-based programs of economic development that arose in the 1980s generally took for granted that the higher education system contained these productive characteristics,

Students are more dependent than ever before on education that conveys literacy, numeracy, and personal versatility

and—in keeping with the Morrill tradition—mainly sought better ways of transferring information to the private sector so it could be commercialized.

Facing even more intense economic trials of the turn of the century, colleges and universities must now find ways not just of creating technology-transfer offices and administrative programs, but of adapting the academic enterprise itself. They must find means not just of extending the products of academic knowledge, but of harnessing the dynamic activities at the core of the academy, namely scholarship and teaching. In planning for the roles of higher education in the coming century's economy, we must pass beyond the first wave of the 1980s, and search for a new vision.

In this effort, the ideas articulated by John Henry Newman cannot be overlooked. Colleges and universities have their value in society partly because their faculties retain the freedom to pass on traditions of inquiry, determine their own research, and question received knowledge. And colleges and universities are the primary institutions in society that transmit to adults complex bodies of knowledge and capabilities for discipline inquiry. Such learning can occur only through years of dedication.

Since the problems faced by the next generation are even less certain now than they were in the nineteenth century, students are more dependent than ever before on education that conveys literacy, numeracy, and personal versatility. At the same time, the contents and methods of education must, also more then ever before, become responsive to the economic challenges of the times.

While consolidating and refining the economic development initiatives of the 1980s, SUNY should at the turn of the century bring concerns about the economy to the very core of its academic activities: to research, education, and training. In doing so, SUNY should be guided by a new idea of the academy that combines and surpasses the nineteenth century ideas derived from Newman and Morrill.

Toward A New Vision for Higher Education in the Economy

Colleges and universities conduct advanced inquiry, integrate complex information in theories and paradigms, educate students in the methods and outcomes of inquiry, and disseminate knowledge to the rest of society. In doing so, academic institutions serve uniquely as centers of long-term creativity and innovation. At the start of the new century, "the university increasingly becomes," in Daniel Bell's phrase, "the primary institution of post-industrial society."[51]

This conception both reaffirms and challenges traditions of higher education. It reaffirms traditions in recognizing that higher education has its uniquely productive and innovative effect on the economy through education that is combined with research and free scholarly inquiry.

It also reaffirms that the colleges and universities transfer knowledge to the economy primarily through educated students. Educated graduates are by far the academic institution's most important "output" to the economy. Such education necessarily requires time—time counted in years—since it is only through the investment of significant time that students learn sophisticated methods of inquiry and complex bodies of knowledge. Concepts of technology transfer and business-university partnership can have important economic roles, but they cannot substitute for education that imparts disciplined inquiry and comprehensive bodies of thought. In this sense, then, the traditional college and university functions are the right ones through which to contribute to the economy.

But this conception simultaneously challenges higher education. If SUNY is to produce knowledge that helps the state's businesses keep up with the global economy, then the academic disciplines themselves must adjust and respond. Engineering disciplines may have to adjust more quickly to embrace new hybrid fields like optoelectronics or neurocomputing. Business programs have to be able to include a more global vision into their curricula. The changing economy challenges the disciplines themselves: the humanities, social sciences, natural sciences, the professions, and newly emerging or interdisciplinary fields.

If SUNY is to produce knowledge that helps the state's businesses keep up with the global economy, then the academic disciplines themselves must adjust and respond

It challenges higher education at all levels. Community college training programs in particular have become ever more important in the past decade for providing advanced skills and greater general knowledge to the state's workforce. It is precisely when these training programs are in a community college, and part of the state university system, that they can potentially integrate information on technological and economic trends into the design of training curricula.

Colleges and universities make their greatest contribution to the economy by combining research and teaching, exposing students to disciplined inquiry and debate, inculcating in students the abilities to learn and adapt, and making sure that training programs are responsive to broad technological and industrial trends. They contribute to economic development by providing advanced knowledge to the economy.

NOTES

1. *SUNY 2000: A Vision for the New Century*, A Report from the Board of Trustees and Chancellor of the State University of New York (Albany, N.Y.: State University of New York, Sept. 1991), p. 7.

2. *SUNY 2000*, p. 53.

3. The Governor's Conference on Science and Engineering Education, Research, and Development, *Toward a Prosperous Future: A Strategic Plan for Maintaining New York State's Scientific and Technological Competitiveness in the 21st Century* (Albany, N.Y.: New York State Science and Technology Foundation, 1990), Recommendations 1, 2, and 3, pp. 8-9.

4. *SUNY 2000*, p. 44.

5. *SUNY 2000*, pp. 37, 56.

6. "Job Total in New York State Down More Than a Half Million in Three-year Downturn," *United States Department of Labor News* (New York: Bureau of Labor Statistics, Middle Atlantic Regional Office) April 15, 1992.

7. John J. LaFalce, "The U.S. in the World Economy," *Vital Speeches of the Day*, Mar. 1, 1985.

8. Oren Weisberg, "The Region and the Global Economy in the 1990s," *Regional Economy* (NY: Port Authority of New York and New Jersey) March 1992, pp. 28-32. The data encompass New York city, the northern suburbs, Long Island, and parts of Northern New Jersey.

9. Pierre Vilain, "New York City 1991: The Wold's Capital in Transition," NY: Office of the Deputy Mayor for Finance and Economic Development, Aug. 29, 1991.

10. Ernest Sternberg, *The Rochester Technopolis: Science, Technology, and International Competitiveness* (Rochester, N.Y.: Center for Governmental Research Inc., Jan. 1989).

11. Sam Cole, "Indicators of Regional Integration and the Canada-U.S. Free Trade Agreement," *Canadian Journal of Regional Science* Vol. 3, No. 2/3, 1990.

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15. Benton et al., *Employee Training and U.S. Competitiveness*

16. On the geographical implications of flexible response, see A.J. Scott, New Industrial Spaces: Flexible Production Organization and Regional Development in North America and Western Europe (London: Pion, 1988).

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25. Samuel M. Ehrenhalt, "Profile of a Recession: The New York Experience in the Early 1990s," (Albany, N.Y.: Nelson A. Rockefeller Institute of Government, April 28, 1992), pp. 12-13.

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30. "Labor Force 2000: Projections for New York State and Economic Development Regions," Albany, N.Y.: New York State Department of Labor, June 1990, p. 1.

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32. Leon F. Bouvier and Vernon M. Briggs, Jr., *The Population and Labor Force of New York: 1990 to 2050* (Washington, D.C.: Population Reference Bureau, 1988), pp. 16-17.

33. Bouvier and Briggs, *The Population and Labor Force of New York*, p. 28.

34. Bouvier and Briggs, The Population and Labor Force of New York, p. 37.

35. Samuel M. Ehrenhalt, "Economic and Demographic Trends Defining the Prospects for a Technologically Adaptable Workforce in New York State," Presentation at the Forum of the Legislative Commission on Science and Technology, Albany, N.Y. May 16, 1991.

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38. On the concept of these technological clusters, see Ernest Sternberg, "The Sectoral Cluster in Economic Development: Lessons from Rochester and Buffalo, New York," *Economic Development Quarterly*, Vol. 4, No. 4, Nov. 1991, pp. 342-356.

39. *America's Choice: High Skills or Low Wages!*, Report of the Commission on the Skills of the American Workforce (Rochester, N.Y.: National Center on Education and the Economy), p. 27.

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41. *SUNY 2000*, p. 32.

42. Michael E. Porter, *The Competitive Advantage of Nations* (NY: Free Press, 1990), p. 626.

43. Porter, p. 521.

44. Porter, p. 628, italics added.

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47. Jaroslav Pelikan, *The Idea of the University: A Reexamination* (New Haven, Con.: Yale University Press, 1992), p. 34.

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49. See Derek Bok, *Universities and the Future of America* (Durham, N.Y.: Duke University Press, 1990), pp. 3-4.

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Appendix 1

State Needs Task Force on Economic Development: The Regional Committees

■ ***Capital and Mid-Hudson Region***
Albany County, Columbia County, Dutchess County, Greene County, Orange County, Putnam County, Rensselaer County, Rockland County, Saratoga County, Schenectady County, Sullivan County, Ulster County, Warren County, Washington County, Westchester County

University Centers
State University of New York at Albany

University Colleges
Empire State College
State University College at New Paltz
State University College at Purchase

Community Colleges
Adirondack Community College
Columbia-Greene Community College
Dutchess Community College
Hudson Valley Community College
Orange County Community College
Rockland Community College
Schenectady County Community College
Sullivan County Community College
Ulster County Community College
Westchester Community College

■ ***Central New York and Finger Lakes Region***
Cayuga County, Cortland County, Genesee County, Livingston County, Madison County, Monroe County, Onondaga County, Ontario County, Orleans County, Oswego County, Seneca County, Wayne County, Wyoming County, Yates County

University Colleges
State University College at Brockport
State University College at Cortland
State University College at Geneseo
State University College at Oswego

Health Science Centers
State University Health Science Center at Syracuse

Colleges and Institutes of Technology
State University College of Agriculture and Technology at Morrisville

Specialized Colleges
State University College of Environmental Science and Forestry

Community Colleges
Cayuga County Community College
Finger Lakes Community College
Genesee Community College
Monroe Community College
Onondaga Community College

■ ***Long Island and New York City Region***
Kings County, Nassau County, New York County, Queens County, Richmond County, Suffolk County

University Centers
State University of New York at Stony Brook

University Colleges
State University College at Old Westbury

Health Science Centers
State University Health Science Center at Brooklyn

Colleges and Institutes of Technology
State University College of Technology at Farmingdale

Specialized Colleges
State University College of Optometry
State University Maritime College

Community Colleges
Fashion Institute of Technology
Nassau Community College
Suffolk County Community College

■ ***Mohawk Valley and North Country Region***
Clinton County, Essex County, Franklin County, Fulton County, Hamilton County, Herkimer County, Jefferson County, Lewis County, Montgomery County, Oneida County, Schoharie County, St. Lawrence County

University Colleges
State University College at Plattsburgh
State University College at Potsdam

Colleges and Institutes of Technology
State University College of Agriculture and Technology at Cobleskill
State University College of Technology at Canton
State University College of Technology at Utica/Rome

Community Colleges
Clinton Community College
Fulton-Montgomery Community College
Herkimer County Community College
Jefferson Community College
Mohawk Valley Community College

■ ***Southern Tier Region***
Broome County, Chemung County, Chenango County, Delaware County, Otsego County, Schuyler County, Steuben County, Tioga County, Tompkins County

University Centers
State University of New York at Binghamton

University Colleges
State University College at Oneonta

Colleges and Institutes of Technology
State University College of Technology at Delhi

Statutory Colleges
New York State College of Agriculture and Life Sciences at Cornell University
New York State College of Human Ecology at Cornell University
New York State School of Industrial and Labor Relations at Cornell University
New York State College of Veterinary Medicine at Cornell University

Community Colleges
Broome Community College
Corning Community College
Tompkins Cortland Community College

■ ***Western New York Region***
Allegheny County, Cattaraugus County, Chautauqua County, Erie County, Niagara County

University Centers
State University of New York at Buffalo

University Colleges
State University College at Buffalo
State University college at Fredonia

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Colleges and Institutes of Technology
State University College of Technology at Alfred

Statutory Colleges
New York State College of Ceramics at Alfred University

Community Colleges
Erie Community College
Jamestown Community College
Niagara County Community College

Appendix 2

The challenges, strategies, and goals identified in the regional reports on economic development are listed below by region.

■ *Mohawk Valley and North Country*

Strategies for Development of the Mohawk Valley Region

Education

Goal 1: Ensure the continued availability of an adequate, quality work force through responsive education, training and retraining.

Goal 2: Adopt education programs that improve levels of interest and knowledge of business ownership and operation.

Infrastructure

Goal 1: Undertake projects to retrain existing industrial base, attract new industries and improve quality of life for regional residents.

Goal 2: Identify specific infrastructure improvements that are necessary for regional economic development.

Business Development

Goal 1: Promote a regional economic climate conducive to internal business development.

Goal 2: To create greater business activity among regional businesses.

Manufacturing Industry

Goal 1: Strengthen the regional economy by promoting the existing manufacturing base.

Goal 2: Strengthen the regional economy by attracting new manufacturing firms. Service industry

Goal 1: Strengthen efforts to attract new service firms to the Region and maintain and improve existing service firms.

Technology Development

Goal 1: Regional education institutions must continue to offer technology courses reflective of area requirements, but must also be responsible for advancing the state of the art.

Goal 2: Preserve the high-tech capability the region is fortunate to have by developing a vehicle to engage the "temporary" unemployed, "transforming transfer payments into an investment."

Export Business Development

Goal 1: Encourage regional firms to export through educational programs.

Goal 2: Develop and promote support services and marketing assistance efforts for exporters.

Agriculture

Goal 1: Explore/create new uses and new markets for the surplus being produced to better utilize existing resources and investments.

Day Care

Goal 1: Insure the availability of affordable, quality day care.

Goal 2: Develop a work environment capable of accommodating the changing requirements of today's work force.

Tourism

Goal 1: Create greater visibility of the region as a four-seasons tourist area.

Goal 2: Stimulate investment in tourism attractions and amenities (hotels, restaurants, etc.) that support tourism.

Strategies for the Development of the North Country

Business Development Marketing

Goal 1: Promote the North Country to businesses outside the region: attract new businesses and create jobs.

Goal 2: Attract new businesses and create jobs through outside investment and business relocation.

Goal 3: Promote the North Country to businesses outside the region; improve the image of the region as an attractive and interesting place to live and work.

Goal 4: Increase regional value added; keep income flow within region (prevent income leakages); increase jobs and income.

Goal 5: Diversify the economy.

Tourism Promotion

Goal 1: Use scarce funds more efficiently; attract a broader tourism base; reduce confusion among tourists.

Goal 2: Encourage longer tourist stays; improve image of the region as an interesting place to live and work; broaden the tourism base.

Goal 3: Undertake national marketing of the Thousand Islands region to promote more tourism in the North Country region.

Infrastructure Improvements

Goal 1: Improve attractiveness of the region as a place to do business by ensuring convenient and cost-effective air service.

Goal 2: Improve the attractiveness of the region as a place to do business by reducing infrastructure costs and providing sufficient capacity, access, quality, and reliability of sewer, water, electric, communications, and transportation service.

Goal 3: Maintain and improve accessibility and minimize travel time to and from North Country destinations.

Anchor Development Projects

Goal 1: Improve the image of the North Country as an interesting place to live and work; expand the tourist season beyond June, July, and August; broaden the tourism base; support the growth of the tourism economy; expand tourism beyond the Lake Ontario and St. Lawrence Seaway waterfronts.

Goal 2: Improve the image of the area as a place to visit and live; attract affluent visitors; attract young professionals to live in the region.

Goal 3: Create jobs for residents and for the large new labor force of military spouses; diversify the economy.

Goal 4: Improve the image and attraction of the region as a place to visit and live; increase employment and income.

Public and Private Corporations for Economic Development

Goal 1: Retain and create jobs through providing loans to businesses; diversify the economy through assisting small businesses and participating in the development of anchor real estate projects.

Goal 2: Create jobs; diversify the economy; foster private investment in region; reduce risk of investment in business growth through sharing of risk.

Small Business Support

Goal 1: Provide a comprehensive and easy to use guide to small business assistance programs in the three-county region; foster small business development.

Goal 2: Stimulate small business development by bringing together entrepreneurs/small business persons, and venture capitalists/finance organizations which might provide capital for product development, marketing, etc.; foster small business development and job creation.

Goal 3: Bring new businesses into the region; attract young, educated persons to the region; support small business development.

Goal 4: Assist new and growing small businesses; create jobs; diversify the economy.

Goal 5: Decrease the cost of doing business for small and new firms, thus encouraging their development and expansion.

Goal 6: Increase market opportunities for small and local businesses.

Goal 7: Create jobs by assisting small and start-up businesses to grow and mature in the North Country.

General Business Assistance

Goal 1: Facilitate the approval process for obtaining permits in order to encourage real estate development and business location in the North Country.

Goal 2: Train local residents for jobs in specific industries available from local firms, or firms locating in the area.

Goal 3: Enhance opportunities for effective economic development, infrastructure development and land use planning.

Goal 4: Provide funding to carry forward programs and projects for economic development, infrastructure and land use.

Goal 5: Expand markets for firms located in the North Country: increase outside (domestic and foreign) investment in the region, and ultimately, create jobs and income.

Housing and Commercial Development

Goal 1: Ensure adequate housing for all people of all income levels during and after the Fort Drum expansion and for the population to be added as a result of additional economic growth.

Goal 2: Improve the quality of life for residents; make the region more attractive for other new (non-retail businesses); and recapture a greater share of resident income now being spent outside the region.

Goal 3: Assist municipal and county governments in the region to improve the quality of development and to incorporate regional interests in their land use policies.

■ *Metropolitan New York*

New York City

Challenge

To contribute to the revitalization of the established economic base in order to sustain competitive integration in a global economy.

Strategy

Targeted services to the core industry constituencies of the individual institutions.

Goals

1. Continue providing leadership in adapting to change in the health care, fashion and maritime industries.
2. Provide entry level and advanced training, as appropriate, to maintain workforce skill levels in a changing environment.

Long Island

Challenge

To promote the diversification of the regional economic base from a singular reliance on defense manufacturing as the energizing sector to a spectrum of healthy industries that will flourish in the twenty-first century.

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Strategy: Strengthening the Regional Economic Base

Primary emphasis on promoting the development of established and emerging technology industries.

Goals

1. Sustain regional technology leadership and competitiveness.
2. Nurture Long Island's entrepreneurial spirit.

Strategy: Maintaining the Skill and Competitiveness of the Regional Workforce

An approximate mix of degree programs, continuing education, programs targeting special needs and populations, and partnerships with elementary and secondary education.

Goals

1. Sustain the talent base as one of Long Island's critical competitive advantages.
2. Ensure a steady flow of qualified entrants to the highly skilled workforce.

Strategy: Address Regional Infrastructure Problems

Help address infrastructure problems faced by Long Island as a fragile island region, a transportation "dead-end," with a sole source aquifer.

Goals: Promote the development of solutions to infrastructure problems in:

1. Energy
2. Transportation
3. Waste management
4. Day care
5. Housing
6. Public policy and public awareness

Strategy: Maintaining institutional diversity and development

Consistent with the academic missions, continued development of each campus as a resource for regional economic growth.

Goals

1. Sustain established programs and create new programs responsive to regional economic needs.
2. Increase regional recognition for the key role of higher education in the economy.

The proposed consortial agenda for 1992-93 is:

1. Regional Strategic Economic Development Plan

Next spring, the Long Island Regional Planning Board will publish its strategic economic development plan for Long Island. All of the institutions have been consulted in connection with the preparation of some of the plan's working papers, and all of the campus presidents are members of groups that will receive the plan. The institutions should begin now to discuss common strategies and actions that should be developed to optimize their participation in the regional response to the plan, which must acknowledge the global marketplace in which Long Island must compete. It is expected that recommendations would be developed that would be submitted to SUNY and/or other entities as appropriate.

2. Strategic Training Partnership Program

Individual campuses and campus partnerships have been established to respond to the goals of this joint DED-SUNY effort. Without precluding additional individual initiatives, the five campuses should assist DED in achieving its goals for this program by identifying DED priority areas where inter-campus activities could maximize the benefits and avoid duplication of effort.

3. High Technology Entrepreneurship: Support Program for the Long Island High Technology Incubator

The Long Island Technology Incubator, a regional facility that is located on the Stony Brook campus, opened in September. Representatives of the other institutions should ne informed about what the program has to offer and could be asked to provide information about potential sources of assistance at their campuses.

■ ***Central New York and Finger Lakes***

Challenge

Improve the business climate in the state and region by identifying and assessing certain public policies and legislation.

Recommendation to SUNY

Establish a Center for Public Policy which would objectively evaluate the impact on business and economic development of specific public policies and legislation, and educate community leaders, citizens and elected officials about the results of the evaluations.

The Center would:

- utilize the existing research capabilities of SUNY institutions, but bring them together in a coordinated manner and focus them on specific issues;
- conduct cost/benefit analyses, evaluate a range of alternative approaches, and educate community leaders, citizens, and elected officials about the costs and benefits of each alternative;
- address regional issues;
- maintain objectivity and serve as a "fact finder";
- have an advisory link between faculty members, business operators, government officials, community leaders and agency representatives; and
- be partially funded by business and industry.

Challenge

Concentrate economic development efforts on the strengths of the community and the region, and thereby identify their niches.

Recommendations to SUNY

Establish SUNY's Business and Industry Centers (BICs) as the focus points for economic development interaction between the campuses and their service regions. The BIC's should inventory their institutions' resources and serve a clearinghouse function for this information. Therefore, funding for the BIC's should be increased, existing BIC's should be expanded or new ones created in order to provide better service coverage to the region (and state), and BIC's should develop a strong network to promote coordination among themselves.

Challenge

Educate, train, and retrain current and prospective workers as well as business owners and operators.

Recommendations to SUNY

SUNY should strengthen the connection between campuses' educational programs and economic development efforts by creating and/or enhancing agreements and partnerships between SUNY institutions and local, regional and state economic development organizations. Significantly improve the communication and coordination among SUNY schools. Recognize and serve the current education needs of the population, as well as plan for future needs.

Challenge

Develop, improve, or provide day care services for state residents.

Recommendations to SUNY

Create targeted assistance programs to help support the establishment of new day care facilities and programs, and improvement of existing day care programs. Deliver this assistance through existing SUNY programs such as Small Business Development Centers, Business and Industry Centers, continuing education departments and schools of education. In order to encourage more people to earn their certification, integrate the certification program for day care providers into a degree program, in a step fashion, which would allow students to receive financial aid and make it easier for them to apply their certification work toward a degree.

Challenge

Increase the cooperation and reduce the duplication among economic development service providers (including SUNY institutions), thereby delivering services more efficiently and effectively.

Recommendations to SUNY

Addressing this challenge was seen as critical to the effective implementation of all current and proposed economic development initiatives in the SUNY system. SUNY Central should establish itself in a leadership role in order to build cooperation among the campuses, ensure continuity of campus-based programs, and exhibit its commitment to economic development.

■ *Western New York*

Strengthening the Economic Base

The four strategic goals proposed in this part focus on what SUNY can do to facilitate regional economic planning, enhance the competitiveness of Western New York industry, and contribute to further diversification of the regional economy.

Goal 1. Establish a capability to integrate, analyze, interpret and disseminate information bearing on the Western New York economy. Plan, develop, and implement such a capability in consultation and collaboration with governmental and private sector users of the information.

Goal 2. Expand and strengthen research, education, and training, and service programs relevant to international trade in order to better prepare businesses and future graduates to participate effectively in the global economy.

Goal 3. Expand and strengthen programs of industrial extension, collaboration and training with emphasis on three objectives:

  a. Increase productivity by incorporating new technologies and management practices in manufacturing and service operations.

  b. Facilitate the establishment and growth of technology-intensive manufacturing and service firms.

  c. Enhance prospects for success of new business enterprises through programs of education and training in entrepreneurship.

Goal 4. Broaden the scope of University technology transfer services to enable more businesses in Western New York to take advantage of SUNY-developed technologies and to allow for the establishment of new businesses based on these technologies. Collaborate with local organizations and institutions to provide needed sources of investment capital and management services for new product and new business development.

■ *Building and Maintaining a Competitive Workforce*

The six strategic goals proposed in this part focus on education and training programs, including collaborations among educational institutions and industry, to maintain and enhance the skills of the existing workforce and to ensure an adequate supply of skilled workers in future years.

Goal 5. Expand continuing education programs in collaboration with industry to train and retrain the existing workforce.

Goal 6. Work with key corporations, industry associations, and labor groups across the state to help small and medium-sized establishments in mature industries upgrade their technological competitiveness through the development and expansion of apprenticeship programs and certification procedures.

Goal 7. Strengthen programs aimed at increasing levels of education attainment for all students, particularly women and minorities.

Goal 8. Increase postsecondary education and training opportunities in natural science, engineering and technology for women and minorities.

Goal 9. Expand opportunities for collaboration, mentoring, and other linkages between University faculty, industry, and secondary and elementary school teachers, especially in disadvantaged communities.

Goal 10. Conduct research on new teaching strategies and new educational technologies for enhancing learning in the public schools.

■ *Enhancing the Infrastructure*

The four strategic goals in this part focus on important contributions SUNY could make toward enhancing state and regional competitiveness by helping to improve the productivity of public works programs, reducing impediments to further economic growth and development caused by degradation of the Region's environment and natural resources, and by assisting in the revitalizing of disadvantaged urban communities.

Goal 11. Expand and strengthen collaboration with State and local agencies to transfer new technologies to public works programs.

Goal 12. Expand and strengthen research, development and outreach programs in support of a regional economic development strategy based on pollution prevention and product stewardship.

Goal 13. Collaborate with federal, state, and local agencies in developing new analyses and management systems for improved planning, policy formulation, and decision making directed toward sustainable development of the Lower Great Lakes and Great Lakes Basin watersheds.

Goal 14. Expand current research, education, and service programs that focus on distressed urban communities and obstacles to their revitalization and rejuvenation. Collaborate with government agencies, private institutions, and community organizations to develop practical strategies for urban neighborhood revitalization.

■ *Capital and Mid-Hudson*

Current and Proposed SUNY Roles

Multiplicity of Local Governments

1. Actively promote collaboration among local governmental jurisdictions, something that SUNY campuses are well positioned to do because they cut across jurisdictional boundaries.

2. In cooperation with local economic development corporations and chambers of commerce develop joint projects of benefit to everyone involved.

3. Develop educational programs targeted at local officials and the general public on issues of local planning, economic development, public policy, and governmental efficiency.

Economic Impact of Government and Education

4. Provide technical assistance to local governments in devising policies that will gain public acceptance.

5. Conduct educational programs to help the public and public officials understand the relationship between sound development policies and the maintenance of the quality of life conditions that make the Region attractive.

6. Develop materials and programs to inform government officials and the public on the importance of planning for infrastructure maintenance and development.

7. Set an example of good practice by attending to SUNY campus infrastructure needs in a timely fashion.

Job Creation and Education Programs

8. Work with employers to identify their skills requirements including areas where there are skill, knowledge or attitude deficiencies.

9. Collaborate with business to inform college students in their junior and senior years about attractive job opportunities within the Region.

10. Work with local and Regional economic development agencies and employers to develop skill-job matching programs to retain more college graduates and meet local companies' skill needs.

11. Survey current SUNY students and graduates to determine what factors would encourage them to remain in the Region after graduation.

12. Develop a comprehensive Regional inventory of skilled people who would like to return to the area when suitable jobs are available.

New Jobs Development

13. Provide technical assistance, especially to small business and ones owned by minorities and women.

14. Expand or create special entrepreneurship programs.

15. Provide management and technical assistance to companies within the Region that need help to reduce costs, and to operate profitably.

16. Participate in target industry research to identify as many of the Region's job potentials as possible.

17. Organize seminars on economic development issues and opportunities for bankers, attorneys, business park developers, commercial realtors, and public officials.

18. Develop a coordinated SUNY effort to develop and use computer programs to track economic development opportunities and projects, disseminate information, and promote job creation potentials.

19. Participate in cooperative Regional marketing efforts.

20. Expand campus educational and employment opportunities for low income and disabled people, and encourage and help private industry and public agencies to hire them.

21. Develop programs that help public and private organizations promote quality management and achieve high levels of excellence and efficiency.

22. Participate with business in such initiatives as mentoring, classroom presentations, scholarships, and adopt-a-school programs to prepare primary, secondary and vocational/technical students, especially minority students, for the world of work and the life-long process of education.

23. Give strong support to the programs of Regional economic development and educational organizations such as local chambers of commerce, planning commissions, the Capital Region Technology Development Council, the Center for Economic Growth, and the School and Business Alliance.

24. Promote faculty-industry affiliations to familiarize campuses and schools with the needs of local industry.

25. Encourage training programs for specialized Regional industries such as tourism.

26. Provide educational seminars to cultivate "global attitudes" and skills in exporting and developing joint ventures with foreign partners.

27. Facilitate technology transfer between college and university research laboratories and the private sector.

28. Support funding for the expansion for employer specific technical job training in vocational education centers and community colleges.

Local and Regional Planning and Economic Development

29. Conduct programs to raise public awareness of the benefits of sound long-range planning and cooperative efforts to solve problems and issues that affect more than the local community.

30. Assist with and support the restructuring of current planning legislation and help with existing efforts to analyze New York State's planning enabling legislation.

31. Provide assistance to local governments that have outdated or otherwise inadequate master plans so that they can be updated as soon as possible.

32. Provide assistance to local governments that lack long-range capital improvement programs so that they can develop and adopt such plans as quickly as possible.

The Business Climate

33. Conduct educational programs in areas served by SUNY campuses.

34. Provide campus experts to speak to community groups, public officials and the media.

35. Actively support specific economic development programs in areas served by SUNY campuses.

36. Play an increased role in addressing concerns that are common to both the public and private sectors and cut across community boundaries, such as solid waste management, air and water quality, affordable housing, the quality of elementary and secondary education, services to the elderly and handicapped, and health care.

■ *Southern Tier*

General Goals:

Goal 1: Address the situation stemming from the displacement of regional industry and their employees by cutbacks in United States Department of Defense procurements. Support the creation of a Center for Commercial Competitiveness that will help retrain displaced defense workers while reconfiguring local defense dependent industries to be more competitive in the commercial marketplace.

Goal 2: Prepare for the realities of the modern workplace by teaching Total Quality Management process implementation, by developing programs to help employers explore strategies for addressing work and family issues faced by employees, and by preparing students for the changing needs of regional employees.

Goal 3: Continue the cooperation among Task Group participants by forming an ongoing group that will begin meeting this fall.

Agricultural Businesses

Goal 1: Address the specific problems encountered by dairy farmers suffering from high overhead and low wholesale prices. Teach them to produce alternative crops.

Goal 2: Have the agricultural industry manage firms better and support food companies research into developing and marketing new and better products. Specifically help small food companies that cannot afford their own research.

International Marketing

Goal 1: Encourage expansion of regional global marketing with cooperation among the various Task Group institutions' international marketing programs.

Goal 2: Implement a global education process assisting local citizens to identify international linkages, implications and impacts.

Goal 3: Stimulate local export marketing activity by encouraging economic development in those international markets newly opening to the international economic system.

Goal 4: Stimulate local export activity by providing local business with information and referrals to appropriate state and federal agencies.

Goal 5: Develop an ISO 9000 program on international quality management standards by teaching international standards and showing local industry how to meet and be certified for them.

Small Business Development

Goal 1: Encourage institutional cooperation among the numerous Small Business Development Centers by greater networking of resources.

Goal 2: Support the regional development of numerous profitable small businesses rather than expect to attract large single employers.

Goal 3: Continue to encourage small business development by offering a range of services through individual institutions' Small Business Development Centers.

Goal 4: Encourage the developing of small businesses by women, minorities, the handicapped, rural residents, and non-resident property owners.

Leadership

Goal 1: Promote the importance of the relationship between community leaders (in both the public and private spheres) and local economic development by offering leadership skills programs.

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Goal 2: Help community leaders to develop master plans.

Continuing Education

Goal 1: Continue to support the concept of continuing education as a way for the Task Group participants to respond quickly to specific needs with specially designed courses, seminars and workshops.

Goal 2: Help local businesses conserve energy.

Goal 3: Continue to acknowledge the importance of computers by teaching a range of computer skills.

Technical Assistance

Goal 1: Increase the competitiveness of the Southern Tier's electronics industry by providing technical assistance, by upgrading current programs in electronics packaging, and by improving support given to small- and medium-sized companies.

Goal 2: Assist secondary and postsecondary occupational teachers and industry personnel in updating their technical skill knowledge.

Goal 3: Provide technical assistance and information to textile and apparel industry firms.

Goal 4: Assist in the start-up and expansion of biotechnical businesses.

Goal 5: Prepare high school students for manufacturing careers with apprenticeship programs.

Goal 6: Update technical professionals involved in high technology applications.

Goal 7: Directly assist individual businesses' personnel in learning new technical skills.

Goal 8: Establish new degree programs in the health science field.

Summary Notes
of
Discussion by SUNY Presidents
SUNY Administrators' Retreat

A group discussion of the Task Group Report at the SUNY Administrators' Retreat on October 12, 1992 focused on several key points.

1. **How should public service be recognized and rewarded?**

- Through a consistent SUNY-wide policy that recognizes public service as a criterion in promotion and tenure.
- Through a Chancellor's award for public service.
- Through definition of public service to specifically relate to State Needs (e.g., economic development).

Cautions: Ethical questions such as conflict of interest need to be recognized; perhaps *paid* consultancies need no additional reward.

2. **The report's emphasis on establishing priorities needs to:**

- Recognize industry-specific missions of campuses such as Maritime, Environmental Science and Forestry, Fashion Institute of Technology.
- Clarify the relationship between liberal arts and long-term economic health.
- Relate State financial support to academic and economic development priorities and acknowledge the degree to which economic development programs have been cut (e.g., contract courses, SBDC).

3. **Regarding SUNY's role in regional strategic economic development planning:**

- SUNY can and should be a neutral facilitator.
- Perhaps the strategic planning effort should integrate *all five* State Needs on a regional basis (since the needs are interdependent).
- Planning should also be trans-regional (e.g., industry-wide) and trans-national (e.g., North American Free Trade Agreement, Mercosur).

- Planning should seek to coordinate and include all relevant partners (private universities, TDOs, DED Regional Offices, other State agencies, business and industry, organized labor).
- Regional planning bodies should report directly to the Chancellor for implementation.
- SUNY should foster inter-regional cooperation (now discouraged).
- One strategic planning goal should be to ensure that SUNY policies are consistent with economic development needs.

4. **In whatever else it does, SUNY needs to listen to expressions of their needs by business and industry. Parenthetically, DED needs to listen too.**

5. **Report should stress that higher education should be at the table with business and government when key economic development decisions are made.**

6. **The report should emphasize the great need for reindustralization.**

   - SUNY's MBA (and other business) programs should give greater stress to manufacturing.

7. **The report should link its broad goals to specific, current, and campus-based activities.**

   - There is agreement on the need for a directory on campus activity and capacity.
   - There is a constant need to disseminate information on SUNY activity.

Michael I. Schafer *(Convener)*
President, Mohawk Valley Community College

SUNY 2000

State Needs Task Group on Environmental Conservation

FINAL REPORT

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INTRODUCTION

The SUNY 2000 Task Group on Environmental Conservation assessed the potential contributions of SUNY *as a system* to better assist the state in maintaining a quality environment. The focus of this inquiry was on SUNY's role as an organization, not on an assessment of the broad array of environmental problems currently or potentially facing the State of New York. The Task Group recognized that New York State has numerous problems and concerns which fall within the general rubric of environmental conservation. SUNY faculty, staff and students offer a rich array of competencies which already bear on these issues. What, then, are some of the additional contributions that can be made by SUNY and what mechanisms could enhance the realization of these contributions?

During its deliberations, the Task Group used a broad interpretation of environmental conservation and did not spend undue time defining the boundaries. This environment includes both urban and rural areas; is largely the natural world rather than the man-made; consists of concerns for air, water, soils, plants, and animals; includes a broad array of issues such as quality of the environment and human health, energy and the environment, educating the public about their environment, land use and its impact on quality of the environment and the social and economic impact of a changing natural environment.

The complexity and number of environmental issues facing New York are steadily increasing, with consensus on resolution of these issues difficult to achieve

New York has been a bellwether state for many of what eventually became viewed as national environmental concerns. Clear-cutting in the Adirondacks in the late 1800's raised the ire of residents; PCBs were discovered in the great Hudson River; Love Canal became a national symbol of improper waste disposal; solid waste disposal dilemmas captured the attention of the nation as we watched a wayward Long Island garbage barge that could find no port; and the discovery of dead lakes in the Adirondacks due to the impacts of atmospheric deposition brought the term "acid rain" into the everyday lexicon. While the State has a history of innovative solutions to these and other environmental problems, now is the time to better anticipate the future and develop new mechanisms to promptly and effectively bring forth the best scientific information and use it to design policies related to conserving our natural resources and protecting the quality of our environment.

The complexity and number of environmental issues facing New York are steadily increasing, with consensus on resolution of these issues difficult to achieve. Examples of such issues include: the application of incineration technology as a viable waste management option; the siting of radioactive waste management facilities; and the management of the six-million-acre Adirondack Park. There is even difficulty reaching agreement on the level and significance of risks associated with these and other current environmental problems and on the benefits to be derived from alternative solutions.

Environmental problems are prevalent throughout the state and no region is immune. Many serious environmental problems are in urban settings, yet we often turn attention to the suburban and rural issues first. For example, we have heard more about the impact of air pollution on trees and fish than we have on human health or on the man-made environment. We have heard more about threatened and endangered species in the wild than we have about rodent pests in New York City. The lack of attention to environmental problems in the urban setting is probably due to the need to compete for public attention with issues such as drugs, housing, and poverty. However, urban environmental problems, which range from dirty streets to dirty air, must be approached quickly and with vigor if our cities are to remain vital as centers of culture and commerce.

New York has experienced significant strife stemming from the perception of irreconcilable conflict between economic growth and maintaining a quality environment

New York has experienced significant strife stemming from the perception of irreconcilable conflict between economic growth and maintaining a quality environment. Some have the attitude that a quality environment must necessarily be at the cost of jobs or that technological advances must be at the expense of the environment. Although these polar views are slowly merging, neither view will serve the State well as it attempts to maintain the vitality of the State as a place to work and live.

Despite the number, the pervasiveness and the difficulty in resolving the state's environmental problems, SUNY has recognized its obligation and ability in assisting the State in creating a high quality living environment. Thus, environmental conservation has been chosen as one of the State's needs on which to focus in the SUNY 2000 plan. SUNY has grown and matured over the past three decades and is now a strong, diverse, and comprehensive system of higher education. Research strengths can be found throughout SUNY in its various centers, institutes, and campuses, and these strengths position SUNY to play an active and important role in environmental conservation. The College of Environmental Science and Forestry, the Atmospheric Science Research Center, the Marine Sciences Research Center, the New York State Center for Hazardous Waste Management, the New York Sea Grant Institute, the Lake Champlain Research Consortium, and the Great Lakes Consortium constitute only the beginning of a list of SUNY units which have already developed strong partnerships with State agencies and are acknowledged for innovative solutions to environmental problems nationally and internationally. There exists within SUNY a very substantial commitment by faculty and staff to better understand the component parts of the environment and their synergistic interactions. In several areas, SUNY is already the primary research arm for the State. However, it appears that SUNY's strengths and contributions to environmental conservation, although recognized by the scientific community nationally and internationally, are less well known and appreciated within New York State.

As environmental problems grow in number and scope, so do the demands for trained professionals

As environmental problems grow in number and scope, so do the demands for trained professionals in government, industry and non-profit environmental organizations. Meeting these needs requires more science and professionals with backgrounds in environmental sciences. SUNY produces thousands of graduates each year with bachelor's and advanced degrees from professional programs related to solving environmental problems. Thousands of others take general ecology courses or pursue curriculum tracks which emphasize environmental conservation.

SUNY as a system needs to effectively communicate to State agencies, non-profit organizations, and firms within the State its capacity and its desire to collaborate with other organizations in creating and maintaining a healthy environment. This will require that units improve access to SUNY's resource people and facilities. SUNY must inform those in need of assistance how to access the information and talent residing within SUNY. In addition, we need to develop a synergy only possible through better communication and coordination among campuses and existing centers, institutes and consortia.

Environmental conservation is just one of five targeted areas of State needs identified in SUNY 2000. This Task Group recognizes that the broad range of topics included within environmental conservation may overlap health-related issues, public education, social services and economic development. Just as SUNY can provide strength in the area of the environment for the State, so can SUNY coordinate its own efforts in SUNY 2000 to bring a variety of approaches to the recommendations made by the Task Groups in a manner that is efficient and organized.

SUNY 2000 TASK GROUP ON ENVIRONMENTAL CONSERVATION

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Potential for an Expanded Role for The State University of New York

The complexity and critical importance of environmental concerns requires SUNY to focus attention on environmental conservation as a system-wide theme. Whatever SUNY's action plan, its credibility will be measured by the ability to deliver on what is promised. The greatest potential for SUNY is to fully use the talents of SUNY, working hand-in-hand with government, the private sector and other academic institutions to address the State's needs in environmental conservation. SUNY's strengths will be found in its solid foundation in research, teaching and public service that is brought to bear on current policy issues.

Any discussion of the role of SUNY must fully recognize that the State University of New York is nested within a state-wide educational enterprise which includes the City University of New York, outstanding private universities and colleges, and other extension and information organizations such as Cooperative Extension, and private non-profit organizations such as the Center for Environmental Information, Inc. located in Rochester. SUNY's action plan should be designed to integrate its efforts within this evolving context and minimize duplication or unproductive competition.

There are several attributes of SUNY which support the reasonableness of a system-wide focus on environmental conservation.

Attribute 1
SUNY is entrenched in the environmental arena

There are many centers, institutes, and consortia distributed throughout SUNY working directly on environmental issues. The 81-year existence of a separate campus of Environmental Science and Forestry is unique amongst institutions of American higher education and attests to an early commitment by the State to focus the attention of public higher education on renewable natural resources and the environment. SUNY faculty are currently playing important roles nationally and internationally in those issues which we read about daily in the newspaper, such as biodiversity, acid rain, global climate change, coastal zone management, water quality protection, ozone depletion, environmental clean-up, and hazardous waste reduction.

Attribute 2
Access to SUNY is enhanced by its geographic distribution

SUNY's 64-campus system places SUNY facilities within a short commuting distance of every citizen group, State agency, or firm in New York. In addition, although environmental problems are pervasive, they tend to be site specific and take on characteristics peculiar to a particular combination of physical and biological attributes of that location. General theories must be refined to effectively offer solutions for individual on-site issues. The wide geographic distribution of SUNY faculty should aid in improving the probability of combining the talents of theorists or experimentalists located at one of SUNY's research campuses with scientist/teachers familiar with particular problems at other specific locations. Given the diversity of missions of SUNY institutions, however, it must be recognized that the interest and capabilities of different campuses will vary. There is no reason to believe that there will be equal involvement of every campus on every issue.

Attribute 3
The tripartite mission of SUNY increases its effectiveness in influencing environmental improvement

The maintenance of a high quality environment will depend on research to improve our knowledge base, teaching of professionals and lay persons to have better informed experts and publics, and using this knowledge in policy decisions through an array of public service, extension, and continuing education activities. Unlike smaller, solitary educational institutions, SUNY includes all of these functions within its mission and its capabilities. Access to a variety of interested parties is possible through the existing SUNY mission and existing relationships.

Attribute 4
SUNY can offer an objectivity sorely needed in the policy debate

Solutions to environmental problems often bring unanimity of opinion on the broad objective, but elude consensus by a majority on the means for achieving that objective. For example, society agrees on the need for proper and responsible disposal of municipal solid waste, but various factions argue vehemently over how much can be recycled, over whether to burn or landfill the remainder, where to locate facilities, and how to pay. Interpretation of facts, personal values, and partisan politics get so intertwined that it becomes impossible to separate facts on which agreement should be possible from opinion on which agreement may never be possible. State agencies often get thrust into roles which make their objectivity suspect. SUNY, whose purpose is the discovery and dissemination of knowledge, can play a major role, not only as developer and purveyor of information, but also as a forum where reasoned consensus can be pursued.

Attribute 5
SUNY has the interdisciplinary intellectual resources

Because of its size and diversity SUNY can bring an array of legal, science, engineering and social science disciplines to bear on environmental issues that would not be possible within an individual agency or firm. Exploring interrelationships among the natural environment, natural resources and human society demands an interdisciplinary approach. SUNY's faculty in the social sciences and the natural sciences offer the science base; while the legal, public policy, forestry, and engineering perspectives can provide a framework for applied solutions to complex problems.

These activities are not new to SUNY. There are many examples of interdisciplinary activities in teaching, research, and public service. The Center for Earth and Environmental Science at SUNY Plattsburgh offers bachelor degrees with this interdisciplinary focus at an undergraduate, primarily teaching institution. The New York Sea Grant Institute currently funds coastal environmental research and provides environmental outreach through extension and communication activities. These are only examples of the many resources available within SUNY for interdisciplinary, multi-campus environmental research and education.

Attribute 6 SUNY research facilities are a significant asset to the State of New York

The combined laboratory, field, and library facilities of SUNY cannot be matched by public agencies or private firms within the State. The College of Environmental Science and Forestry alone possesses 25,000 acres at campuses and field stations throughout the state. SUNY's library collections in 1991 included over 9 million book titles and almost 170,000 periodical titles. Hundreds of laboratories on SUNY campuses are equipped and used for teaching and researching environmental issues. This represents an investment of millions of dollars of State and federal money which gives the SUNY campuses collectively a research capacity which would be impossible to duplicate by public agencies within New York.

Response to State Needs

The Task Group addressed how, through its existing strengths, SUNY as a system can respond to a wide variety of state environmental needs. SUNY offers qualified faculty and staff to help identify critical research needs, educational opportunities, collaborative projects among agencies and SUNY, public service partnerships, and strategies for information storage and retrieval of environmental information and data. SUNY as a system, however, must enhance its effectiveness through better coordination among campuses and between SUNY and State clients. As in all problems of awareness, coordination and communication, this involves not only how SUNY can better extend itself to the state-at-large, but how the potential clients, whether state agencies, private firms, or citizen groups, can extend themselves to SUNY.

The following agenda indicates how SUNY, through its involvement, might enhance the efforts to resolve current, emerging and future problems regarding environmental conservation in the State.

SUNY Intercampus and External Communication and Collaboration

The evidence is strong that communication among the units of SUNY or between SUNY units and others in the environmental arena can be improved to the ultimate benefit of the state.

Though individual faculty or specialized centers may have developed close relations with divisions of State agencies or individual firms, SUNY collectively is not recognized and routinely utilized by State agencies or the private sector as a source of information or problem solvers on environmental issues. The Task Group's information on this tends to be more anecdotal than thoroughly documented, but it was sufficient for us to conclude that those seeking information on environmental issues, or even looking to hire professionals in this area often do not look to SUNY as a reservoir of expertise. As a system, SUNY needs to find improved methods for communicating its interest, willingness and capabilities and for developing a sustaining partnership with other state organizations and the private sector.

The Task Group, although recognizing the strengths and past contributions of individual centers, feels that collaboration among SUNY units is at this time a largely unrealized potential. Certainly there are exceptions such as multi-campus involvement in the New York Center for Hazardous Waste Management, the Great Lakes Consortium, or the Sea Grant Program, but SUNY has to develop well functioning mechanisms to identify effective multidisciplinary teams to address an educational or research agenda related to a particular environmental theme and to mobilize SUNY's expertise when needed in an advisory capacity.

A critical step in SUNY reaching its potential in serving state needs in environmental conservation is to solve both problems of improved collaboration among SUNY units and between SUNY and the other partners contributing to the solution of the state's environmental problems. The following two recommendations address this coordination issue.

Recommendation 1
Appointment of a SUNY Environmental Core group

It is recommended that the Chancellor of SUNY appoint a SUNY Environmental Coordinating Core Group comprised of the directors or representatives of centers and institutes dealing with environmental issues, the President of the College of Environmental Science and Forestry, and key persons from selected campuses. A first task of the coordinating group would be to identify and catalog the expertise and activities of SUNY related to environmental conservation. It would develop mechanisms for communication and collaboration among the SUNY community involved in science and education directly related to environmental concerns. It would play a coordinating role between combinations of campuses' and state agencies' applications for federal or other funding with the prospect that larger complementary proposals may serve the State better than competitive ones.

Recommendation 2
Creation of a New York Council on the Environment

It is recommended that SUNY create and initially host a New York Council on the Environment. Membership on the council would be comprised of interested faculty or staff from SUNY and CUNY institutions, private research universities within New York, participating government agencies and nongovernmental organizations involved with the environment. The council would have three principal functions: (1) to prepare a prospectus on the expertise resident in academic institutions within New York, (2) to champion the involvement of academic institutions in identifying and meeting environmental needs of the state, and (3) to facilitate identification of appropriate interdisciplinary teams to work on environmental concerns. The council would have a Director and a small support staff to assist in carrying out these functions. The staff itself would not serve the research, education, and public service functions, but would facilitate the bringing together of appropriate teams to work toward solutions of environmental problems. An executive committee of the council would assist the director on a regular basis in making the council the best example of collaboration between academic institutions and the citizens of a state.

The Task Group strongly suggests that the following ten additional recommendations be implemented as soon as possible. While they can be accomplished independently of the recommendations for the creation of the Environmental Conservation Coordinating Core Group or the New York Council on the Environment, it makes sense that these groups would take an oversight and coordinating responsibility for the recommendations. Recommendation 3 would be assigned to the Council and the remainder would be the responsibility of the SUNY Coordinating Group.

Foresight

Attention to environmental problems tends to be focused on current crises and immediate solutions rather than through well-constructed, long-term planning. The State needs a plan which anticipates future environmental affronts and recommends actions to address them. This would enable the state to move more swiftly when necessary and reduce the cost of delay. The collaboration of both scientists and policy makers is sorely needed to achieve this goal. SUNY is well suited to develop a foresight capacity and work with both the public and private sector to better understand a longer-term view of environmental conservation. This broader time horizon should make for more effective and efficient coordination and use of State resources.

Recommendation 3
Long-term environmental assessments

It is recommended that the New York Council on the Environment, with appropriate partners, conduct long-term environmental assessments. Study groups from the Council could assist the State through analysis, long range planning, identification of research needs and realistic implementation strategies. The scope of each task, however, must be manageable to avoid "planning for planning's sake," with realistic goals and objectives. Separate assessments could be done for broad areas of environmental concerns such as air quality, coastal management, hazardous waste disposal, etc.

Information Storage, Retrieval and Dispersion

SUNY presently participates in a variety of excellent library based information exchanges. OCLC, for example links all SUNY libraries and provides access to system resources for books and monographs through inter-library loan. Indexes of scientists exist primarily to provide biographical information rather than professional or research interests. Systems currently exist to efficiently share a variety of information. On the other hand, currently existing data and information about the environment is broadly scattered between agencies and is inconsistent as to format, definitions, and generally not accessible.

Recommendation 4
Implementation of an environmental database

It is recommended that the Coordinating Group work with other organizations to develop a strategy for implementation and keeping current a geographic specific environmental database that would allow all public agencies to easily access this information. It could form a base for improved understanding of environmental issues and anticipation of future problems. Where such information dispersion is already the responsibility of an existing group, resources should be coordinated rather than duplicated. Three SUNY campuses are already working with the Department of Environmental Conservation to develop geographic information data bases for the Adirondack region, the Hudson River Valley, and the Buffalo River Watershed.

Consensus Building

There is a great deal of disagreement regarding the priorities and actions needed for environmental conservation within and between agencies and the private sector and the many concerned publics. New Yorkers have become acutely aware of the possible long-term environmental costs of short-sighted industrial activity. For example, Syracusans must wonder about the exorbitantly high costs of cleaning up Onondaga Lake necessary because of a lack of more thoughtful waste disposal techniques several decades ago. Many environmental topics are really process issues and for changes to occur many players, including those who are in positions of responsibility and those who perceive that they are effected, must be involved. More and more individuals and groups feel they need to be involved in policy decision making on the environmental conservation issues with which we are faced. Current environmental management systems are proving to be ineffective and costly because the policy making process is unable to deal with the number of intervening parties and their widely divergent views.

SUNY can contribute at least three things to consensus building: a factual basis for understanding environmental problems, meeting facilities at reasonably neutral locations, and a potential center for research on conflict resolution and policy decision making.

Recommendation 5
Designation of a SUNY lead campus

It is recommended that SUNY should designate a lead campus to develop a network among SUNY units involved in research in environmental mediation and policy decision making. This network should work closely with the pending New York Policy and Mediation Center to coordinate the SUNY research agenda with identified state needs for improving dispute resolution over environmental problems.

Informed Citizenry

The Chancellor's report, SUNY 2000, calls the system to "bring the public onto campus" and to "expand the opportunities for ... growth intellectually, culturally, professionally, and personally." SUNY can assist with environmental education and public problem awareness by offering specifically designed programs for its students, public and private sector organizations, and citizens-at-large. Many of SUNY's campuses have programs where two and four year degrees are granted in environmental areas. The community colleges have the ability to offer easy access to SUNY's environmental expertise through its strategically located facilities throughout the State. There are many approaches whereby SUNY can make its faculty and facilities available to a larger public. Only a few are mentioned below.

Recommendation 6
Development of a fellows program with appropriate state agencies

It is recommended that SUNY develop, along with appropriate State agencies, a fellows program which encourages interchange of faculty and staff among SUNY and public agencies and industry, with personnel moving in both directions. This would train faculty and staff in the goals and procedures of those agencies, provide faculty and staff an opportunity to become aware of industry concerns and approaches, expedite advanced training of agency personnel, and provide an opportunity for long-range networking and knowledge transfer between SUNY and participating agencies and industry.

Recommendationn 7
Formal cooperative education programs

It is recommended that formal co-operative education programs with local/state agencies and non-profit environmental organizations be explored and enhanced so that more SUNY students could be introduced to the realities and complexities of environmental conservation in the State. Obvious benefits include establishment of links between faculty and campus sponsors with those agencies and potential employment prospects for the co-op students. The visibility of SUNY in the environmental conservation area would be enhanced and a continuous feedback on curricular focus and employer needs would be established.

Recommendation 8
Development of an introductory course in enviornmental issues

It is recommended that SUNY develop an introductory course in environmental issues and management. This course would be at the college freshman or high school senior level and be available by satellite (SUNYSAT). Among other issues it should address the complementary and conflicting goals of environmental conservation's policy aspects, political aspects, technical aspects and economic development.

Recommendation 9
Communicating environmental information

It is recommended that SUNY take advantage of mechanisms that already exist to communicate environmental issues. Readily available educational modules focusing on national level environmental concerns should be tailored for the New York environment and New York audiences.

Recommendation 10
Identification of access points

It is recommended that SUNY identify access points to its specialists by publishing a roster of its organizations with a focus on environmental issues. To enable SUNY to effectively follow through its commitment to coordinate and participate in State-wide environmental conservation concerns some mechanisms to facilitate this must be created.

Recommendation 11
Development of faculty linkage role

It is recommended that on selected campuses, faculty positions should be identified and funded to serve as links between SUNY resources, county and regional extension specialists, State agencies, and citizen groups. These faculty would have not only particular expertise, but a broad knowledge of environmental conservation issues and other experts in the State. While this report tends to suggest an expansion of SUNY involvement in public service activities related to environmental conservation, it does not address the fact that there is no unused capacity in the SUNY faculty. Budget cuts over the past decade have left SUNY with a substantially reduced faculty at a time when enrollments and research activity have grown.

Motivation of SUNY Faculty

Much has been written about the difference in motivating forces between academic scientists and policy makers. The former searching for truth which may require substantial amounts of time and money, and the latter looking for the best information available (no matter how inadequate) to bring to bear on a policy decision which is imminent. The faculty member sees the reward system giving preference to scholarship, where the community requires public service. SUNY needs to shift the culture of the academic community to better recognize and reward public service to meet state needs.

The academic institution recognizes that quality research requires money, and, therefore, courts those agencies or foundations that have funds. There are not comparable funding sources for public service and extension programs. The State may assume it is already funding public higher education, and, therefore, expects additional research, extension or on-campus programs at no additional cost. These differences in the academic culture and State needs will have to be recognized and addressed before effective partnerships between SUNY and others can be fully developed.

Recommendation 12
A reemphasis on SUNY's public service role

It is recommended that Central Administration of SUNY, the Board of Trustees, and campus presidents reemphasize the role of public service, extension, and continuing education in promotion and continuing appointments within SUNY.

A First Step

The Task Group feels that the 12 recommendations above would be modest in cost compared to the ultimate benefits to New York. The Group, therefore, feels strongly about moving expeditiously on creation of the Coordinating Core Group. Several members of the Task Group are willing to commit their time and effort to improve collaboration among SUNY campuses and within the New York academic community to better serve government agencies. They are willing to serve as an organizing group to develop the plans for both the SUNY Environmental Coordinating Group and, if approved, a New York Council on the Environment. Discussions are already underway in the academic community about organizing a conference on the *State of New York's Environment: Developing an Agenda.*

Summary Notes
of
Discussion by SUNY Presidents
SUNY Administrators' Retreat

The discussion of the Task Group Report at the Administrators' Retreat on October 12, 1992, was very enthusiastic and participative. Overall, the Breakout Group found the Task Group Report quite positive and encouraging.

Our discussion seemed to focus on three areas perceived by the group to be deserving of more thought and possible action.

1. **Most Effective Linkages With Industry**
   The group felt that all possible avenues of linkages with business and industry should be pursued, including the possibility of a two-way visiting fellows program between higher education institutions and selected industries and businesses.

2. **Enhance Educational Efforts**
   A good deal of our time was spent discussing the need for enhancing and focussing our educational efforts regarding environmental issues in general and science and mathematics courses in particular. The group felt that K-12 students — emphasizing the involvement of students at the lower grade levels as soon as possible — and their teachers should be involved in focussed programs regarding environmental issues. A popular proposal was that special summer programs could be designed by higher education institutions for those groups. It was felt that such focussed formats presented at appropriate settings would be very effective.

   The need for enhanced environmental studies options and courses within the undergraduate curriculum was also emphasized, as well as a request for faculty development programs. It was the view of the group that SUNY institutions that have already developed expertise in these areas could provide, through SUNYSAT and other means, model developmental programs.

   It also was suggested that the myriad of students in pre-law curricula should receive focussed attention regarding environmental issues, perhaps leading to optional career paths in support of environmental quality and concerns.

3. Campus and University Environmental Policies

There was a very serious discussion about the status of the various campus and university environmental policies. Are they sound? Are they well understood? Have we pressed business and industry enough to be seriously concerned about critical environmental issues? Are we modeling appropriate behavior regarding recycling, asbestos removal, PCB control, etc.

The Breakout Group also endorsed the Task Group Report's recommendation to form an environmental coordinating core group and a statewide council regarding environmental issues. With regard to the statewide council, it was recommended that regional groups similar to those created by the Economic Development Task Group be considered.

All of the recommendations within the Task Group Report were generally endorsed, and great enthusiasm was expressed for the work of the Task Group. In fact, the Breakout Group supported Task Group Chair Ross S. Whaley's suggestion that some method be found to preserve the momentum of that group. It was suggested that the Task Group might focus on a particular project to present to the State University.

Charles O. Warren *(Convener)*
President, State University College at Plattsburgh

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SUNY 2000

State Needs Task Group on Health Care

FINAL REPORT

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PREFACE

It became clear early in the deliberations of the SUNY 2000 State Needs Task Group on Health Care that we had a difficult job. On the one hand, our initial review of the health-related programs currently sponsored by SUNY produced an extensive and very impressive reminder of the innumerable ways in which our multi-tiered system is already addressing many of the major health problems confronting the residents of New York State. On the other hand, a review of those problems, a significant number of which are rapidly growing more severe with every passing year, presented the Task Group with almost limitless possibilities for suggesting ways in which SUNY could be of additional service to the State in this critically important arena. Undaunted, the members of the Task Group proceeded with great diligence to apply their very considerable talent and wide-ranging experience to the assignment. The result is a set of goals and a number of associated objectives and actions designed both to focus SUNY's energies in a more coordinated and coherent way and to stimulate several changes in SUNY's priorities and processes that promise to enhance significantly the effectiveness of the system in addressing the health needs of our fellow New Yorkers. Although the final list of recommendations is lengthy, each of the individual actions suggested appears well within SUNY's capability to accomplish and, in the aggregate, constitute a health agenda worthy of a world class, state-supported university.

A few words about the members of the Task Group are definitely in order. As chair of the group, my job was simple: let this wonderfully talented group of dedicated professionals do their thing! This was a marvelous combination of individuals from within the SUNY family, from government, from private institutions and foundations, physicians, nurses, allied health professionals, administrators, public officials - all committed to the serious task of helping find workable solutions to very complex and difficult problems. I thank them all very much.

Dr. Jordan Cohen
Chair

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Ms. Gina Giuliano, Staff Assistant for Academic Programs
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Charge to the Task Group

The charge was to assess current SUNY activities directed toward SUNY 2000 goals, set priorities and develop strategies to implement the goals. Practical considerations were that apart from the meetings, the effort had no funding, so the Task Group had to be realistic about the amount of detail in which it could examine the issues. However, background material was available. The group was cautioned to not be too eager to create new data, but instead to take advantage of what was already available and to ratify data against goals already established, or to suggest the need for additional information as part of the recommendations.

The group understood that the Chancellor was very clear about what he would like to see from each of the task groups: a set of "do-able" suggestions - things that can really be implemented over the near term to make an impact on the goals.

Committee Process

New York State faces several serious problems with the adequacy and composition of its health care workforce

The State Needs Task Group on Health Care met six times (January 28, March 12, March 30, April 10, May 4 and June 3, 1992) in New York City. The group began by reviewing existing reports, then proceeded to identify and discuss major health issues and the potential impact the SUNY system could have on these issues.

Data and health care trends from many relatively recent reports (New York State Department of Health, Institute of Medicine, Pew Commission) provided much of the background information considered during the Task Group deliberations. SUNY data was gathered from material provided by the SUNY Office of Institutional Research.

Rationale for Priorities

New York State faces several serious problems with the adequacy and composition of its health care workforce. Among the most pressing problems for which SUNY can offer significant assistance are the following:

1) A serious underrepresentation of African Americans and Latinos is shamefully evident in the current health care workforce, most especially in the higher paying and more highly skilled professions. In relationship to the percentage of New

Virtually all varieties of health care workers are concentrated in large population centers in New York State

Yorkers who are African American and Latino, a very marked underrepresentation exists among students enrolled in SUNY's (and in all of New York State's) medical schools, in nursing programs at the baccalaureate and more advanced levels, and in virtually all of the programs in the allied health professions, particularly programs for physician assistants, physical therapists and occupational therapists. *The Seventh Report to the President and Congress on the Status of Health Personnel in the United States* noted: "beyond issues of equity, the recruitment, retention and graduation of minorities is a practical concern for a number of reasons. Minorities represent a relatively untapped source of manpower, their representation in the population as a whole is increasing, and minority health professionals are more likely to serve underserved populations."

2) New York State is preparing an insufficient number of primary care practitioners. Among physicians practicing in New York State, as is true elsewhere in the country, the great majority (approximately 70%) are highly focused specialists and subspecialists, leaving only a minority who practice general internal medicine, family medicine or general pediatrics. Physicians practicing in these latter specialties, known as generalists physicians, are trained to care for a broad range of common medical problems and are increasingly in demand to provide primary care and to manage, organize and coordinate the specialized services of other physicians.

Other primary care practitioners in short supply include nurse practitioners, nurse midwives and physician assistants.

3) Virtually all varieties of health care workers are concentrated in large population centers in New York State and, even within those population centers, are highly concentrated in suburban areas. Thus, New Yorkers living in rural and inner city locales have insufficient access to medical and allied health services.

4) The nursing workforce in New York State comprises too few individuals prepared for available positions and advanced practice. According to *The Sixth Report to the President and Congress on the Status of Health Personnel in the United States*, by the year 2000 approximately twice as many associate degree nurses will be in the workforce as will be needed, while only half the number of baccalaureate prepared nurses will be available to meet demand.

5) Educational preparation is critical to the production of an appropriate nursing and allied health workforce. Master's preparation is a basic requirement for

instructors in associate and baccalaureate degree programs; a doctorate is preferable. At the graduate level, an earned doctorate is required. However, in the United States, only 40% of present nursing faculty teaching in programs offering baccalaureate and graduate degrees hold an earned doctorate.

6) Significant shortages exist in several allied health professions. Shortages are especially acute in physical therapy, occupational therapy, physician assistants, medical technology and imaging technology.

Only 40% of present nursing faculty teaching in programs offering baccalaureate and graduate degrees hold an earned doctorate

The State University of New York has an exceptional opportunity to strengthen its commitment to help solve these problems in New York State. With its widespread system and extensive involvement with health professions education, research and service, SUNY is perhaps uniquely positioned to play a leadership role in addressing each of these issues. In addition, as an expression of its public service mission, SUNY can make other important contributions through continuing education, direct consultation to state and other health-related agencies and cooperation with other institutions in the development of needed programs and services. The strategic location of SUNY's health sciences centers in four of the important geo-political regions of the state enables these centers to function as coordinators of regional health planning and delivery despite an increasingly competitive health care environment.

The Task Group agreed that the central aims of SUNY should be:

- Take advantage of SUNY's extensive state-wide presence in designing and implementing strategies to improve the health status of New York residents through education, research and service.
- Heighten the commitment to excellence within all SUNY health science schools and programs.
- Position SUNY to play a leadership role in the health affairs of New York State and the nation.
- Adopt primary care, health promotion and disease prevention as central missions throughout SUNY.

The strategic location of SUNY's health centers enables them to function as coordinators of regional health planning and delivery

- Increase the effectiveness of SUNY'S health-related educational, research and service programs in meeting the special needs of New York State's underrepresented and underserved populations.

- Enhance SUNY's ability to meet specific shortages in New York State's health workforce.

In the three general categories of education, research and service, specific objectives include:

EDUCATIONAL PROGRAMS

- Increase the number of individuals from underrepresented populations in all health professions in New York State.

- Help redress the geographic and specialty maldistribution of health care professionals practicing in New York State.

- Prepare future leaders for the health professions.

- Increase the number of generalist physicians practicing in New York State.

- Enhance the ability of New York State's nurse workforce to meet the increasingly complex demands of modern health care.

- Increase the number of allied health professionals and nurses in New York State who are:

    a. working in fields that are currently in short supply;
    b. practicing as primary care providers.

- Foster career development and advancement for nurses and allied health professionals working in New York State.

RESEARCH

- Enhance SUNY'S ability to add important new knowledge and to advance technology in the health sciences.

SERVICE

- Strengthen the ability of SUNY's health-related programs and facilities to respond to the existing and changing health needs of New York State.

Recommendations

CENTRAL AIMS

GOAL I
Take full advantage of SUNY's extensive state-wide presence in designing and implementing strategies to improve the health status of New York residents through education, research and service

OBJECTIVE: Foster collaboration and cooperation among units within SUNY and with non-SUNY partners to achieve the goals established for the SUNY 2000 Health Agenda.

ACTIONS

1. Develop articulation agreements among various levels and programs within the SUNY system to facilitate educational advancement.

2. Review systematically all of SUNY's health professions programs to identify opportunities for greater impact through cooperative/combined efforts (e.g., joint educational programs, collaborative research, sharing of faculty).

3. Establish on-going, local linkages with relevant governmental agencies and with representatives of the health care industry to assist in defining personnel and specialized services needs.

4. Promote local/regional focus groups comprising health facilities administrators, practitioners, and patients to identify those skills and competencies required to meet perceived needs.

5. Broaden the range of clinical training sites and clinical faculty available to SUNY health professional students.

GOAL II
Heighten the commitment to excellence within all SUNY health science schools and programs

OBJECTIVES:

A. ***Improve methods for making assessments about the quality of all health science programs.***

B. ***Utilize these assessments to target areas for quality improvement.***

C. ***Achieve a ranking for all SUNY medical schools that is within the upper half among national peers by the year 2000.***

ACTIONS

1. Incorporate standards for appointment and promotion of faculty that recognize the increasing diversity of faculty roles and that reward contributions to the achievement of SUNY's goals and objectives.

2. Develop measurable objectives, performance standards, and systems of accountability for all SUNY health science schools, programs and faculty.

3. Monitor measurable outcomes of all programs and publicize attainment of established goals.

4. Require that each campus and program engaged in health professions education develop and adopt a quality improvement plan with a specific set of goals and objectives and a timetable for achieving measurable targets.

GOAL III
Position SUNY to play a leadership role in the health affairs of New York State and the nation

OBJECTIVE: Increase SUNY's ability to:

a. examine critical problems in the delivery, financing, and regulation of health care;
b. serve as a resource to health policy makers for information, study design and analysis;
c. participate directly as an advisor in the development of health policy for New York State and for the nation.

ACTIONS

1. Establish a SUNY Health Council reporting to the Chancellor and comprising relevant campus Presidents, Vice Presidents, Provosts and Deans, to:

    a. monitor adherence to the SUNY 2000 Health Agenda;
    b. recommend modifications and new initiatives;
    c. provide an interface with other State agencies.

2. Create within the central administration of SUNY a strong health desk under the direction of a vice-chancellor.

3. Establish within the central SUNY administration a permanent, on-going mechanism for communication with relevant state agencies, including DOH, OMH and OMRDD.

4. Expand all SUNY programs that focus on health policy and health systems analysis, especially those in the SUNY School of Public Health.

GOAL IV
Adopt health promotion and disease prevention as a central mission throughout SUNY

OBJECTIVE: Become the leader among New York State's educational institutions in advocating, facilitating and practicing established strategies for health promotion and disease prevention.

ACTIONS

1. Develop innovative methods for ensuring lifelong habits of health promotion and disease prevention among SUNY students (undergraduate, graduate, and professional), faculty and staff.

2. Develop model curricula to highlight health promotion and disease prevention within all educational programs in the health sciences.

GOAL V
Increase the effectiveness of SUNY'S health-related educational, research and service programs in meeting the special needs of New York State's underrepresented populations.

OBJECTIVE: Make SUNY's programs in the health professions more attractive to students and faculty from underrepresented populations.

ACTIONS

1. Establish within the SUNY central administration a system to monitor recruitment and retention of health professions students and faculty from underrepresented populations.

2. Publicize annually progress towards achievement of established goals.

3. Design a model program to equip health professions faculty with the mentoring, tutoring, and counselling skills required to address the needs of students from underrepresented populations and implement the program on all appropriate campuses.

4. Identify and reward mentors and tutors who are committed to the needs of students from underrepresented populations.

5. Provide incentives for students from underrepresented populations to pursue careers in health-related research.

6. Encourage individuals from underrepresented populations who are already employed as health care workers to become better equipped educationally by enrolling in health science programs.

GOAL VI
Enhance SUNY's ability to address New York State's health workforce needs

OBJECTIVE: Provide adequate resources to enable SUNY to:

a. establish new programs in health personnel areas of State need;
b. increase the number of places available in existing programs in subject areas of State need;
c. provide competitive faculty salaries;
d. establish a central fund to which SUNY campuses/programs can apply for support (e.g., grants, matching funds, seed money) to develop innovative programs in the health professions targeted at SUNY's health-related goals.

ACTIONS

1. Acquire increased funding from non-state sources (e.g., foundations, the federal government, providers).

2. Establish arrangements with other state agencies to help defray the expenses of providing needed education/services.

3. Shift the balance of resources allocated to SUNY's present health agenda to provide incentives for programs that emphasize prevention, health promotion, primary care, and generalist careers.

4. Enhance SUNY's programs in the health sciences by a substantial reallocation of support from programs of lesser priority.

5. Exempt from any future SUNY budget cuts those programs that address major established needs.

Educational Programs

GOAL I
Increase the number of physicians, dentists, nurses, pharmacists, optometrists and allied health professionals from underrepresented populations (African American, Latino and Native American) in New York State

OBJECTIVE: Increase by the year 2000 the SUNY-wide enrollment of individuals from underrepresented populations in programs of:

- ***a. medicine from the current level of approximately 11% to 15%;***
- ***b. dental medicine from the current level of approximately 3% to 10%;***
- ***c. nursing from the current level of approximately 11% to 15%;***
- ***d. physical therapy from the current level of approximately 3% to 10%;***
- ***e. other allied health professions, in the aggregate, from the current level of approximately 11% to 15%;***
- ***f. pharmacy from the current level of approximately 2% to 10%.***
- ***g. optometry from the current level of approximately 8% to 15%.***

ACTIONS

1. Increase by the year 2000 the aggregate amount of non-state funds earmarked on SUNY campuses for recruiting members of underrepresented populations into the health professions from the current level of approximately $1,700,000 to at least $3,000,000.

2. Disseminate information to high school students, faculty, guidance counsellors and administrators designed to:

    a. promote awareness of existing and future opportunities in medicine, dentistry, nursing and all allied health fields;
    b. ensure full understanding of admission requirements for programs in the health professions;
    c. target especially schools in cities with large populations of underrepresented persons.

3. Disseminate information to SUNY/CUNY undergraduate students to:

    a. promote awareness of existing and future opportunities in all health professions, including medicine, dentistry, nursing and allied health;
    b. ensure full understanding of admission requirements for programs in the health professions.

4. Create appropriate linkages between SUNY Health Science programs and SUNY/CUNY undergraduate campuses to facilitate entry into SUNY's programs for the health professions.

5. Foster mentoring programs between entering students from underrepresented populations and appropriately trained faculty.

6. Increase the amount of scholarship support available to students from underrepresented populations.

7. Provide high school students from underrepresented populations with relevant summer learning/earning opportunities.

8. Collaborate with appropriate secondary schools to develop enrichment programs designed to enlarge the pool of prospective applicants among students from underrepresented populations.

9. Increase the number of "Adopt-a-High School" arrangements involving SUNY health science schools/programs.

10. Improve the support services (e.g., counselling, remediation, job placement) available to matriculated students from underrepresented populations.

GOAL II
Help redress the geographic and specialty maldistribution of health care professionals practicing in New York State

OBJECTIVE: Increase the number of graduates from SUNY's health professions programs who choose to:

- ***a. maintain an emphasis on primary care;***
- ***b. practice in underserved areas in New York State;***
- ***c. work in programs serving populations with special needs (e.g.,the seriously and persistently mentally ill, the homeless, the developmentally disabled, those with AIDS);***
- ***d. pursue careers in Public Health.***

ACTIONS

1. Establish, where educationally valid (e.g., for field work, internships and electives), formal affiliations or informal partnerships between SUNY health professions programs and health facilities serving underserved populations (e.g.,

inner-city neighborhood health clinics, rural practice sites, mental health clinics/hospitals).

2. Expand, where educationally valid, the degree to which students in the health professions have meaningful contact with programs in the public sector (e.g., rotations for psychiatry residents to public mental health facilities).

3. Explore ways in which DOH, OMRDD and OMH can augment the educational resources necessary to increase the number of positions in programs of interest to them.

4. Design and implement programs to meet the specific education needs of health-related segments of state and local governments, including provision of continuing education programs for employees, and offerings of degree and non-degree programs designed to assist governmental employees to obtain new skills and to promote upward job mobility.

5. Advocate state and federal policies that would establish financial incentives (e.g., tuition remission, educational loan forgiveness, augmented reimbursement for primary care services) for health professionals to select generalist careers and to practice in underserved areas.

6. Advocate a "New York State Health Corps" that would provide strong financial incentives for graduates of all medical schools in New York State to practice for a minimum period of time (e.g., 2 years) in an underserved area.

GOAL III
Prepare future leaders for the health professions

OBJECTIVE: Provide SUNY health professions students with the motivation, knowledge, skills and attitudes to become academic leaders, policy makers and major administrators in their respective disciplines.

ACTIONS

1. Incorporate instruction on leadership skills, decision making, resource management and program evaluation into SUNY's educational programs for the health professions.

2. Broaden the impact of the School of Public Health of the University at Albany by drawing on its expertise to develop linkages with, and relevant programs at,

all of SUNY's health sciences centers; strong alliances should be formed, for example, with the epidemiology and preventive medicine efforts of the various Health Sciences Schools, the Research Institute on Alcoholism at the University at Buffalo and the nutrition programs based at Cornell.

3. Broaden the availability of degree and non-degree instruction in health care administration and management by utilizing existing resources both within and outside SUNY to:

    a. make the new M.S. and M.P.H. programs in Health Policy and Management of the School of Public Health of the University at Albany more accessible to:

        i. faculty of the SUNY health professions schools;
        ii. house staff and medical students at SUNY Health Science Centers;
        iii. employees of relevant state agencies and other health professionals.

    b. permit greater access by students across the state to the programs of the School of Public Health by implementing innovative approaches to graduate education, including:

        i. optimizing use of televised classes and other technologies;
        ii. offering intensive courses at various sites throughout the state;
        iii. reducing in-residence course requirements;
        iv. optimizing utilization of local course offerings appropriate to a degree program.

4. Enable the M.P.H. degree from the School of Public Health to be granted to graduate students who qualify but who have received their education at other centers; appropriate instruction and assessment can be enhanced by maximizing the use of video conferencing and by offering concentrated summer courses.

5. Utilize the model of Empire State College and the resources at the School of Public Health to develop state-wide programs of continuing education and consultation with particular emphasis in the areas of health management, health economics, program evaluation and outcomes analysis.

GOAL IV
Increase the number of generalist physicians practicing in the State of New York

OBJECTIVE A: Increase to 50% by the year 2000 the fraction of students graduating from SUNY medical schools who select generalist careers (i.e., general internal medicine, family medicine, general pediatrics).

ACTIONS

1. Encourage inclusion, early in the medical school curriculum, of direct experiences with generalist physicians and their patients.

2. Increase the involvement and "prestige" of full-time and voluntary primary care faculty.

3. Foster mentoring programs between entering students and primary care faculty.

4. Increase the ambulatory-based training of all medical students.

5. Establish and fund at least one primary care professorship at each of the SUNY medical schools.

6. Expand training opportunities in underserved inner-city and rural areas.

7. Encourage collaborative education with other health care professionals to foster the development of a "team model" of primary care.

OBJECTIVE B: Increase to 50% by the year 2000 the fraction of residents completing specialty training in SUNY sponsored and affiliated GME programs who select generalist careers (i.e., general internal medicine, family medicine, general pediatrics).

ACTIONS

1. Endorse the recommendations of the NYS Council on Graduate Medical Education and coordinate SUNY's efforts in fostering generalist careers with those of the Council.

2. Advocate state and federal policies that would establish financial incentives for pursuing generalist careers (e.g., tuition remission, educational loan forgiveness, augmented reimbursement for primary care services).

3. Advocate expansion of the "New York State Health Service Corps" to include primary care practitioners.

GOAL V

Enhance the ability of New York State's nurse workforce to meet the increasingly complex demands of modern health care

OBJECTIVE: Increase the number of graduates of SUNY's nursing programs who are prepared at the baccalaureate, masters and doctoral levels.

ACTIONS

1. Earmark funds for nursing education to:

   a. increase emphasis on baccalaureate, masters and doctoral education within existing nursing programs;
   b. increase the faculty lines at Schools of Nursing that teach at the baccalaureate and/or graduate level;
   c. fund faculty lines appropriately in recognition of the market value for nursing skills (i.e., provide competitive wages);
   d. increase the number of graduates with advanced degrees in primary care (e.g., nurse practitioners, nurse midwives);
   e. increase the number of AAS graduates from existing programs.

2. Establish and maintain articulation agreements between community colleges and university-based nursing programs in order to ensure appropriate graduation standards throughout the system.

3. Establish uniform standards and criteria for transfer among SUNY nursing programs to enhance career mobility.

4. Establish demonstration project(s) to assess how Schools of Nursing might combine delivery of currently reimbursable services, on the one hand, with expansion of practice sites, increased numbers of students and increased revenues, on the other.

5. Identify new funding sources, external to SUNY's campuses and hospitals, to support expansion of nursing faculties.

6. Collaborate with health care facilities to improve access of working nurses to SUNY nursing programs to facilitate career development and upward job mobility.

7. Support research efforts within schools of nursing by establishing research centers, expanding sources of funding, and providing necessary laboratory, computer and other necessary research-related resources.

GOAL VI
Increase the number of allied health professionals and nurses in NYS who work in fields now in short supply and practice as primary care providers

OBJECTIVE A: Increase the places available in those programs currently oversubscribed by well-qualified applicants and increase enrollments in those programs currently underfilled.

ACTIONS

1. Increase by the year 2000 the aggregate number of positions available for entering students in existing and/or new programs for:

   a. physical therapists from the current level of 132 to 158;
   b. occupational therapists from the current level of 80 to 96;
   c. nurse midwives from the current level of 18 to 22;
   d. physician's assistants from the current level of 86 to 115;
   e. nurse practitioners from the current level of 347 to 417;
   f. nurse anesthetists from the current level of 15 to 18.

2. Increase by the year 2000 the aggregate number of students entering programs in:

   a. medical technology from the current level of 166 to the current capacity of 211;
   b. imaging technicians from the current level of 272 to the current capacity of 330.

3. Maintain or improve current faculty-to-student ratios in these programs.

4. Establish opportunities for doctoral-level education and for masters programs both in physical therapy and in occupational therapy.

5. Permit all SUNY campuses that possess the requisite resources to grant appropriate certificates and degrees.

6. Develop incentives for faculty to maintain and expand clinical skills.

7. Expand clinical training sites to include more home care and ambulatory settings.

8. Increase the ambulatory-based training of all nursing and of all allied health professions students.

OBJECTIVE B: Graduate, in the aggregate, at least 90% of students who enroll in programs of the allied health professions.

OBJECTIVE C: Improve operational and educational efficiencies within Schools of Allied Health Professions.

ACTIONS

1. Coordinate developments in allied health programs among SUNY campuses.

2. Foster functional linkages within relevant HSC campuses (e.g., between Ob/Gyn departments and midwifery programs).

3. Establish demonstration project(s) to establish the utility of primary care/prevention activities by physicians assistants, nurse practitioners and nurse midwives.

4. Develop new and flexible funding sources external to SUNY's campuses and hospitals to expand faculty and facilities.

5. Establish Tuition Income Fund accounts earmarked for programs that address established needs and that exceed enrollment targets.

6. Accelerate the approval process within NYS SED and SUNY for new programs designed to meet targeted needs.

7. Allow campuses to retain (e.g., in protected IFR accounts) contract funds obtained from state agencies in support of programs designed to meet designated health workforce needs.

GOAL VII
Foster career advancement for nurses and allied health professionals working in New York State

OBJECTIVE: Increase the opportunities for part-time and mid-career enrollment in, and subsequent graduation from, SUNY's programs in nursing and the allied health professions.

ACTIONS

1. Disseminate information to:

   a. promote awareness of existing and future opportunities in medicine, dentistry, nursing and all allied health fields;
   b. ensure full understanding of admission requirements for programs in the health professions.

2. Promote the use of competency testing in decisions about admission and about advanced standing.

3. Accommodate the scheduling needs of students who enter health professions programs under non-traditional circumstances by:

   a. standardizing entry requirements to programs across SUNY campuses;
   b. offering evening, weekend, and part-time pathways to certification and/or degrees.

4. Provide educational support to encourage trained health professionals, including those currently employed in the State health-related agencies and programs, to enhance their skills by taking advantage of SUNY's programs.

5. Create appropriate linkages with SUNY and CUNY undergraduate campuses to facilitate entry into SUNY's programs for the health professions.

Research

GOAL I
Enhance SUNY'S ability to contribute important new knowledge and to advance technology in the health sciences

OBJECTIVE: Increase the quality of, and external support for, SUNY's research and development activities in the following areas:

a. the biomedical sciences;
b. health services research (e.g.,clinical epidemiology, outcomes studies, health policy, delivery systems, financing, regulation);
c. technology transfer;
d. the behavioral sciences.

ACTIONS

1. Identify and encourage centers of research excellence within the SUNY system.

2. Establish modern telecommunications linkages among SUNY research centers and with appropriate institutional partners.

3. Promote emerging research programs in the allied health professions.

4. Promote collaboration among disciplines (e.g., allied health and medicine).

5. Develop an explicit portfolio of research activities for each campus.

6. Encourage the Research Foundation to return a larger fraction of indirect cost funds to the responsible campuses and to target such funds for research support.

7. Encourage the development of graduate programs in emerging areas of biomedical sciences.

8. Provide incentives to recruit and retain productive research faculty.

Service

GOAL I
Optimize the ability of SUNY's health-related programs and facilities to provide needed services to the citizens of New York State

OBJECTIVE A: Increase the ability of the SUNY hospitals to meet regional health care needs.

ACTION
Reorganize the administrative and governance structure of the SUNY hospitals to foster local decision-making and accountability.

OBJECTIVE B: Encourage the SUNY Health Science Centers to function as regional "hubs", helping to coordinate the planning and delivery of health care services offered by the local network of providers.

ACTIONS

1. Sustain the Centers' ability to respond in a timely and effective manner to major state health issues (e.g., AIDS, alcohol and drug abuse, health problems of the young and old) through instruction, research, and service activities.

2. Establish at each HSC campus a health council, comprising relevant campus administrators and appropriate regional representatives, to play a leadership role in local health policy development.

3. Establish linkages between relevant SUNY campuses and their regional health care facilities to:

    a. identify allied health professions of greatest local need;
    b. promote affiliations supportive of health professions education.

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Summary Notes
of
Discussion by SUNY Presidents
SUNY Administrators' Retreat

An overview of the Health Care Task Group Report was presented at the Administrators' Retreat on October 12, 1992. The major missing pieces discussed included how to insure that adequate numbers of students enter primary care fields and adequate numbers of underrepresented minorities enter health care fields.

The following topics were discussed: the health care service mission, resource management and hospital governance, managed care, cost of health care, production of primary care professionals, and appointment of a vice chancellor for health sciences at SUNY Central.

In regard to the health care service mission and financing, it was agreed that clinical practice provides the underpinning for doing almost everything, including health science education. Expansion of flexibility for revenue management within SUNY is essential and ways should be found to use the clinical practice funds more creatively. Hospital governance issues are of critical importance; however, managed care, quality assurance, and certification/licensure issues also require serious attention.

Clinical practice provides the underpinning for doing almost everything, including health science education

Whether SUNY has any responsibility to address the cost of health care was discussed. There was consensus that while the Task Group charge did not address health care costs, related issues should be considered by the various councils recommended in the report. It was also suggested that this issue be considered by the Board of Trustees in response to the Task Group Report. In addition, given that many of the recommended actions will require new funds, the Chancellor asked all Task Groups to consider how the scarce resources of SUNY should be managed. That is, should the Chancellor take money off the top of the budget and reduce allocations to all campuses, or should he encourage select campuses to reallocate and create special initiatives in response to the recommendations?

The need to reduce the cost of educating health science personnel was discussed. How to reduce the cost of educating health science professionals and improve the quality of health science professionals are major considerations for the University. Smaller classes should improve program quality, but they would be more costly. The group agreed that cost should be considered as an agenda item for the SUNY Central Health Science office.

Revenue management was a principal concern. There was agreement that aspects of State management make it more expensive to run SUNY hospitals; therefore, expansion of flexibility for revenue management within SUNY is essential. The example given was the noncompetitive nature of SUNY nursing salaries. Hiring contract nurses is the extremely expensive solution.

The Presidents agreed that a senior officer, preferably at the vice chancellor level, is needed to manage health science issues and to integrate policy at the subcabinet level.

Recommendations:

1. In some instances, a drop in hospital revenues has been associated with an inability of university hospitals to provide managed care. A deans-level Task Group on Managed Care should be established to make recommendations regarding how to expand the University's involvement in managed care.

2. More flexibility with tuition monies should be considered in order to increase program offerings and to expand existing health science programs which fulfill state needs.

3. Accelerate negotiations for coverage of University Hospital psychiatrists under the Empire Plan. When managed mental health was put into place, the State failed to consider University Hospital psychiatrists. If this flaw in the coverage is not corrected, University Hospitals may lose psychiatrists.

John H. Marburger *(Convener)*
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SUNY 2000

State Needs Task Force on Public Education

FINAL REPORT

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PREFACE

The State University of New York is committed to using its resources to foster improvement of public education through restructuring of teacher education, increased collaborative relationships between the University and public elementary and secondary institutions, and through basic and applied research.

The talented faculty and staff of the University in its education programs and its liberal arts and sciences programs can effectively train teachers, counselors and administrators, can establish positive collaborative relationships with school districts and can encourage research on many issues pertinent to the improvement of public education. Maximum benefits can accrue if resources are devoted to joint efforts of the University and the public education sector.

However, the differential in resources, particularly financial resources, among and across public school districts makes it very difficult for the University to develop and conduct programs that can improve the academic preparedness of students in a representative sample of elementary and secondary schools. The lack of equality in fiscal resources across school districts in the state results in poorer school districts not being able to benefit in any significant manner from University programs; whereas those school districts that have extensive resources can afford to interact with the University services in a manner that may increase their ability even more to prepare their students in their academic endeavors.

This effect has been documented several times in the last few decades of educational reform (see, for example, the last Carnegie report on education in the public schools, *An Imperiled Generation: Saving Urban Schools*, 1988; also Jonathan Kozol, *Savage Inequalities*, 1991). A repeat of the same results is not beneficial to our country, or students, or the University. Our nation cannot afford ill-prepared students from any group and the University and the public education sector must work together to increase the probability that all students will be well prepared academically for college and/or careers.

The University strongly urges the relevant political entities to develop the necessary legislation that will provide for equity in financial resources for all public school districts in the State of New York.

L. Eudora Pettigrew
Task Group Chairperson

SUNY 2000 STATE NEEDS TASK GROUP ON PUBLIC EDUCATION

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Charge to the Task Group

There is widespread recognition that public education in New York State must be improved so that every public school student will be able to acquire the necessary skills, knowledge, and competencies to make an appropriate contribution to the economy and society of New York State and the nation. New York's workforce and citizenry also have needs for retraining, educational upgrading to meet new career and societal challenges, and opportunities for lifelong learning and intellectual and cultural enrichment. As indicated in *SUNY 2000: A Vision for the New Century*, meeting these needs will be essential in order for New York State to reassert its competitive position in the global information economy of today and to rise to the economic and social challenges of tomorrow.

Many constituencies are engaged in public education reform in New York, and many groups are actively involved. The Task Group will serve as the chief locus of coordination for SUNY's participation in efforts related to the *New Compact for Learning*, workforce preparation, national standards and exams, assessment, *America 2000*, and other initiatives in which public higher education in New York has a critical role to play. In pursuit of its charge, the Task Group will seek to strengthen collaborative relationships between the public education sector and the private business and corporate community in order to meet the new workforce challenges of the twenty-first century and to help the University articulate the contributions that public education makes to economic development in New York State.

The purpose of the Task Group is to advise and make recommendations to the Chancellor's Advisory Council on State Needs regarding the appropriate contributions of State University to public education in New York State. In particular, the Task Group is charged to:

1. assess the capabilities and potentials of the SUNY System in meeting critical areas of State needs in public education;
2. establish System priorities and set goals in responding to those needs; and
3. oversee SUNY's participation in the Regents' *New Compact for Learning*.

Procedures

The Task Group was composed of representatives from a broad range of constituencies both within and without public education: college presidents, deans of education, faculty, a high school principal, a BOCES district assistant superintendent and State University Trustee, and representatives from the business world, a national education association, the City University of New York and the New York City Board of Education, and the State Education Department.

The Task Group met three times in Albany on February 11th, March 16th, and May 29th, 1992. An additional meeting for most members of the Group took place by conference call July 17th.

The Task Group elected to focus its efforts upon the second element of our charge. We lacked the time and staff support to conduct a thorough assessment study of the System's capabilities and potentials; much of the information that would be necessary is not currently available within SUNY Central. Also, as a relatively short-duration study group, we lacked the administrative authority to oversee University-wide activities in connection with the *New Compact*.

Instead, the Group spent some time refining our focus, identifying thematic areas in which to concentrate our recommendations, and ensuring that our approach was supportive of the philosophy articulated in the *New Compact for Learning*.

In addressing the priorities and goals for SUNY's agenda to meet State needs in public education, the Task Group decided to focus particularly upon the following, derived in part from *SUNY 2000: A Vision for the New Century*:

- Student Preparation and School-to-College Transitions: How could the University provide incentives, encouragement, and support so that students acquire better academic preparation for college?

- School-College Collaboration: How could the University build partnerships with public elementary and secondary schools and engage parents, community agencies, and business in order to:
    - improve retention through high-school graduation;
    - create more effective education for the workplace;

  - enhance staff development in both schools and colleges through professional development schools that engage teachers as researchers; and
  - encourage pursuit of postsecondary and adult education.

- Innovative **University programs** in:
  - teacher preparation, especially in elementary education, post-baccalaureate training, and opportunities for multiple entry points;
  - staff development for in-service teachers and school administrators, including professional development schools; and
  - all components of post-secondary pedagogy, including:
    - research on teaching and learning throughout the spectrum of education from pre-K and K-12 through college and graduate school to adult and continuing education; and
    - emphasis on recognizing and rewarding continuing professional growth.

A recurring theme is the need for new and greater collaboration between the University and the schools

The Task Group organized itself into three subcommittees based on these three themes and developed recommendations within each subcommittee. There are obvious areas of common interest and mutual reinforcement. Indeed, a recurring theme is the need for new and greater collaboration between the University and the schools. We recognize, of course, that an enormous amount and variety of such connections already exist and work well. The point here is not to suggest startling new insights to be revealed for the first time in these pages, but rather to underscore that the educational needs of New York's youth will not and cannot be met satisfactorily by the schools and colleges of the State acting alone and independently.

Throughout its deliberations the Task Group was keenly aware of the climate of educational reform both nationally and within New York State. Public demands for higher standards and greater international competitiveness must be answered without compromising the State's and SUNY's social equity agenda. SUNY is only one part, albeit a critical part, of the solution to public education reform in New York State and all of our efforts will be undermined and unsuccessful if fundamental inequities in public school funding are not addressed. The principles of the *New Compact for Learning* and the unequivocal commitment in *SUNY 2000* to both access and excellence must be maintained for this effort to have any value or validity.

Recommendations

The Task Group offers the following recommendations as important goals for SUNY to pursue in the immediate future. The recommendations are grouped under the three themes examined by the Task Group subcommittees.

1. Student Preparation and School-to-College Transition

Many students arrive at college ill-prepared to deal with the level of work and the expectations associated with the pursuit of a college degree. In addition, many disadvantaged students still do not view college as a realistic and achievable goal. By strengthening and extending relationships between institutions of higher education and public schools, SUNY will enable students to develop a better understanding of the expectations associated with pursuing and obtaining a college degree and to make the best use of their school experiences to prepare for the transition to college.

Most disadvantaged students do not have access to a network of adults who can supply first-hand experiences or contacts with the world of higher education

The topic of student preparation for life after high school is attracting considerable attention. Recent studies and reports have focused upon the skills which schools must impart to students to prepare them for success in the workplace. Nationally, the US Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS) Report of 1991, and in New York State, the 1992 Report of the Task Force on Creating Career Pathways for New York State Youth, have identified what students will need to be prepared for the high-skills workplace of the twenty-first century. But most, if not all, of these skills are also keys to success in higher education. Both SUNY, through its Systemwide Task Force on College Entry-Level Knowledge and Skills, and CUNY, through its College Preparatory Initiative, have tackled student preparation for successful transition to college.

The influence of parents upon the goals and aspirations of their children is considerable. The predisposition of students to consider college as a serious possibility is directly related to the level of expectation and encouragement provided by their parents. Unfortunately, most disadvantaged students do not have access to a network of adults who can supply first-hand experiences or contacts with the world of higher education. As the socio-economic and educational circumstances of the parents decrease, it has been found that the influence of others (counselors, mentors, friends, etc.) upon decisions related to pursuing a college education increases. Moreover, it is important that both information and support be provided beginning at the elementary level, since a predisposition to pursue a college education will have an impact upon decisions concerning selection of appropriate courses.

Remedial programs at the high school and college levels should be coordinated so that the transition from high school to college is less disruptive for students. In addition, high school students who have aspirations for college should be prepared for the types of teaming experiences and unstructured study that most college curriculums provide. This could include counseling at the high school level to prepare students for the college life experience and restructuring high school courses to be more similar in terms of environment and assignments to introductory college courses.

Recommendation 1.1
Better preparing students for college

SUNY should identify how students can better prepare for success in college and communicate those needs more effectively and much earlier to prospective students and their parents.

SUNY will remain accessible to students with a wide variety of backgrounds, but all of those students may improve their prospects of success at college by more attention to their academic preparation during their middle and high school years. Many students and parents do not fully appreciate the importance of taking Regents level, honors, and Advanced Placement courses; indeed, there is a real danger that students think they can improve their chances for admission to college by taking basic level, non-Regents courses where it is easier to get high grades. SUNY should educate prospective students, along with their parents and the community at large, that preparation for successful transition to and enhancement of choices at college are more important than a narrow and exclusive focus on admissions.

The Chancellor of SUNY and campus presidents should take the lead in this educational process by communicating directly with students and parents: for example, writing to the parents of all fifth graders encouraging parental involvement in and support for their children's education and their children's schools; and, again, writing to all eighth grade students and their parents identifying the importance of a strong foundation in high school as a basis for college success.

SUNY has already begun the task of articulating with greater precision what an incoming freshman student should know and be able to do. The work of the SUNY Task Force on College Entry-Level Knowledge and Skills should be communicated widely to schools, students, and the community. Every effort should be made to emphasize to students — and to all students, not just those planning to proceed directly to a SUNY college immediately upon graduation from high school — the value of taking courses at the Regents level or above. It is also incumbent upon the

State to make such coursework available in all the secondary schools of New York State.

Recommendation 1.2 Raising the standards for beginning college students

SUNY should strive to raise the standards for the knowledge and skills expected of beginning college students and SUNY campuses should collaborate with local schools to reduce the need for remediation in the college years.

In the near-decade since publication of *A Nation at Risk* there have been numerous reports calling for higher standards in American public schools as a pre-requisite for enhanced national economic competitiveness. The National Council of Teachers of Mathematics has defined performance standards in mathematics — at a level that politicians delight in referring to as "world-class" standards — to which schools may aspire by the end of this decade. More recently, the Regents *New Compact for Learning* has underscored New York State's need for higher standards in high school student learning outcomes. SUNY should take advantage of these social and political pressures and promote the expectations defined by its College Entry-Level Knowledge and Skills Task Force as benchmarks to be attained by the year 2000.

At the same time, SUNY should collaborate with schools and school districts to deliver remedial services to students who lack the knowledge or skill necessary for post-secondary work or who have dropped out before graduating. The University, especially through the community colleges, will continue to provide developmental opportunities and alternative routes for adult and non-traditional students.

SUNY colleges and local school districts working together should significantly reduce the need for remedial services by the year 2000 — by communicating academic expectations, by making available the necessary challenging coursework, and by career and college planning through the elementary and middle school years. In addition to the early interventions at grades five and eight proposed in *Recommendation 1.1*, SUNY should reinforce students' growing interest in college during their later years in high school and help them utilize those years to better effect in terms of academic preparation.

SUNY should take the lead in developing a diagnostic alert system modeled upon the program that Ohio has pioneered in mathematics; eventually, such a system could be extended across the entire range of high school skills in mathematics, English, computer literacy, and foreign languages. Whether using placement tests, or portfolios, or some combination of several approaches, students in the tenth or eleventh grades could be assessed against the standards for their preferred college majors and SUNY campus. Participation by the students would be voluntary and the exercise would not be part of their application for admission. Rather, the outcome of the assessment would be an individual report to the students, their parents, and their school guidance counselors, indicating what coursework the students should take in their remaining years at high school in order to commence collegiate study in their preferred field without need for developmental or remedial work at college. Experience in Ohio has shown that such a system can substantially increase the rigor of students' programs of study in their senior year in high school, along with a corresponding dramatic reduction in the need for remediation during the freshman year in college.

Recommendation 1.3
Support for collaboration between SUNY campuses and high schools

In order to challenge students to pursue a more serious academic schedule in their senior year, SUNY should support collaboration between campuses and high schools to make available to high school students college-level courses which would provide both college credit and satisfaction of secondary requirements.

SUNY campuses should be encouraged to offer more college-level courses to local high school seniors for which they will receive college credit. At the same time, SUNY should seek financial support through all available avenues — governmental, corporate, philanthropic — so that high school students can afford to take college courses.

While recognizing that admissions requirements and procedures will remain ultimately within the purview of the individual campuses, SUNY should encourage campuses to work with their "feeder" high schools across the State to recommend more academically oriented senior-year course selection. Moreover, schools should be encouraged to identify such courses appropriately on transcripts that will be considered in the college admissions process.

Recommendation 1.4
Introduction of assessment systems that emphasize thinking skills

SUNY should support efforts to introduce new assessment systems throughout K-12 in NYS that emphasize problem-solving and higher-level thinking skills rather than focussing predominantly on knowledge-recall and lower-level skills.

SUNY should support and participate fully in the Regents efforts to introduce new "authentic" or performance-based assessment systems for high-school learning outcomes, as called for in the *New Compact for Learning*. Superior performance by students should be of some consequence in terms of admissions to students' preferred college or desired program of study.

Given that any newly developed assessment systems will be subject to intense scrutiny to ensure their equity and integrity, SUNY should engage its research capabilities in evaluating the validity and reliability of new assessments in predicting collegiate success.

Recommendation 1.5
Actions necessary for tuition supports

The Chancellor of SUNY should work with the Commissioner of Education to help restore funding to the Regents Scholarship program, to provide an increase in TAP funds, and to develop a legislative proposal for tuition funding support for students willing to engage in public service as repayment.

With the elimination of Regents Scholarships, almost all grant aid for attending public colleges and universities in New York State is awarded on the basis of financial need. While students can readily see extraordinary rewards for athletic achievement in our national collegiate culture, academic achievement does not appear to be so highly valued. A different "message" should be sent.

A revived academic scholarship program in New York State should reward effort and academic accomplishments. The criteria for awards should be based upon achievements outside the competitive environment of the local high school, such as Regents Exams, Advanced Placement exams, Westinghouse Science Competitions, Statewide Vocational-Industrial Club Competitions, or the new Pacesetter or other national achievement examinations.

SUNY should also work with the State Education Department to develop a tuition assistance program that would offer students additional support (beyond that otherwise appropriated by the Legislature) if they agree to provide public service for a pro-rated period of time in particular areas of the State. Such service may include, but should not be limited to, teaching, environmental conservation activities, work in social service agencies, and other governmental services for which their training might be applicable.

2. School-College Collaboration

In this era of diminishing resources, schools and colleges have begun to recognize and accept that they cannot address the full range of student needs in isolation. With increased frequency, schools are seeking to establish links with community service providers (such as social service agencies and hospitals), business, industry, labor, and higher education in order to serve students more effectively. The faculty and staff in colleges and universities throughout New York State represent a valuable resource to assist school districts to encourage students to aspire to a college experience and to assure that they have the knowledge, skills and abilities needed to complete a college program.

School-college collaboration in the preparation of students and in the preparation of teachers is, of course, hardly a new phenomenon. There is an enormous amount of activity already taking place in New York State and in which SUNY is a leading participant. But in recent years interest in school-college collaborations, partnerships, and academic alliances has blossomed into a national movement with symposia, grant-funded projects, and a growing literature.

The two recommendations that follow both call for additional funding. We do not wish to imply that nothing can happen in the area of school-college collaboration without additional resources — the University is continually reallocating its current resources and shifting its research, teaching, and service agendas. Moreover, virtually all the recommendations in this report involve joint endeavors between schools and colleges to some extent. At the same time, other states have made investments such as those described here and have found them successful; New York should at least consider the possibilities.

Recommendation 2.1 Development of experimental professional development schools

SUNY, in collaboration with the State Education Department and the statewide Teacher Centers, should seek funding for a ten-year experimental program to establish four experimental professional development schools across New York State. Approximate annual cost $1M ($250,000 per site).

A professional development school (PDS) is a new form of organization that seeks to integrate the strengths of teacher education and research on teacher education in colleges and universities with the wisdom of practice and clinical expertise to be found in a real school. It allows for a breadth and depth of clinical preparation for which many current approaches to student teaching are a poor substitute. Since New York State presently prepares a surplus of teachers in many certification areas, SUNY must plan to prepare somewhat fewer teachers to a much higher level of competence.

A PDS is a cross between a teaching hospital and an agricultural experiment station. It contributes to both preservice and continuing professional development, but it is not a "laboratory school" operated by a college or university for its own purposes. Rather, it is a real school collaborating with a college or university and exemplifying, ideally, the whole range of problems and challenges facing education today. Its defining characteristics are on-going enquiry into its own operations and the improvement of professional practice, and dedication to the *New Compact for*

Learning principle that all children can learn.

A system of pilot professional development schools would generate extremely potent leverage for significant school change in New York State. First, it would help create a model for the restructured and reformed schools of the future. Second, it would offer continuing professional development opportunities for the teachers who participated in the school and for others who might be assigned there periodically. Third, if operated in collaboration with the State Education Department's Teacher Centers, a PDS would allow for systematic preparation of veteran teachers who mentor beginning teachers as required by the state. Fourth, such schools would transform the experience of the "apprenticeship of observation," that period from kindergarten through college in which every day in their classrooms students, some of whom will become teachers, observe current practice, rather than best practice. Fifth, it would serve as an exemplary program and clinical site for universities who prepare the future professoriate in teacher education. Finally, it would provide a paradigm case of school-based management.

The funding, of about $250,000 per year per site ($10 M over ten years), would support physical rehabilitation of the site to accommodate state-of-the-art facilities and technologies used in teacher preparation, planning time for both school and SUNY personnel, released time for taking on the new responsibilities of this very different kind of organization, and evaluation of the projects.

Recommendation 2.2
Chancellor's grants for school and community improvement

SUNY should seek funding for a program of Chancellor's Grants for School and Community Improvement to contribute the university's research, teaching and service resources to the improvement of current practice and student achievement in K-12 public education. (If modeled on programs currently in place at the University of California and the California State University, funding levels might begin at $150,000-$250,000 annually for institutional or individual grants ranging from $5,000-$50,000.)

School-college-university partnerships have become increasingly important mechanisms for involving higher education institutions in the improvement of public elementary and secondary education. Recent national partnership initiatives, including the Urban University-Urban School Collaborative Program, funded by the Ford and Exxon Education Foundations and administered by the National Association of State Universities and Land-Grant Colleges (NASULGC), and the Community Compacts for Student Success initiative, funded by the Pew Charitable Trusts and administered by the American Association for Higher Education (AAHE), have found that the use of small planning and implementation grants (ranging from $2,500 to $40,000) have been particularly effective in initiating or reshaping partnership work focused on school reform and improved student achievement. The California Academic Partnership Program of the California State University, and the Presidential Grants for School Improvement of the University of California similarly offer modest grant support to initiate partnership efforts and to support research targeted to improvement of pre-collegiate education, particularly for students from groups historically underrepresented in postsecondary education.

Improvement of elementary and secondary education depends increasingly on improvement of the larger social and economic community context in which schools and children are located

Improvement of elementary and secondary education depends increasingly on improvement of the larger social and economic community context in which schools and children are located. The power and impact of the proposed SUNY grant initiative could be greatly enhanced by this broader focus on the community context of children. Such a focus might also be useful in linking the recommendations of the public education task group with those which may be forthcoming from the other SUNY 2000 task groups, particularly those on social services and health care.

A relatively small investment in such a grant program could generate significant new resources in foundation and corporate support for expansion of activities initiated through the program, as well as provide matching funds for support available through several federal programs oriented to school-college-university partnerships for underrepresented students. Program guidelines could be written to encourage partnership approaches involving a SUNY campus, elementary/secondary education and private sector or community-based organizations so as to encourage efforts focused on socio-economic or community issues affecting the educational performance of children. Guidelines could also emphasize interdisciplinary and/or interdepartmental approaches to encourage collaborative work within SUNY campuses, as well as initiatives involving collaborative work between school-college-university faculty members.

3. University Programs

Recommendation 3.1 Institutes for the Study of Postsecondary Pedagogy

In collaboration with the State Education Department, SUNY should seek funding for a program to establish several Institutes for the Study of Postsecondary Pedagogy across Now York State, with at least one located at a SUNY University Center and another at a SUNY University College. (Approximate start-up costs would be of the order of $100,000 per site.)

Institutes for the Study of Postsecondary Pedagogy would be committed to the analysis, development, and assessment of methodologies leading to the improvement of teaching at the postsecondary level. Their mission would be to serve as a forum where intellectual trends and issues related to teaching would be discussed and evaluated by those interested in curricular change and improving the quality of undergraduate and graduate instruction. Additionally, they would provide a platform for teachers and researchers to share their ideas, concerns, experiences, and innovative pedagogies with a broader audience of colleagues and peers. Each Institute would provide research opportunities for resident and visiting faculty and professional staff from the home campus and from elsewhere within SUNY and beyond.

Research on teaching and learning is necessary in order to provide faculty with a common pedagogical language, establish common goals, encourage research projects that would strengthen teaching, define new assessment and evaluation procedures, and meet common institutional goals. This new knowledge would permit faculty to understand their students, what their academic needs are, and how best to address them. College student development models are the basis for important new research on the relationships between cultural differences and learning styles as well as on cross-cultural learning models and teaching methods.

Recognizing the importance of research on innovative teaching and learning, however, may not be as difficult as determining how to evaluate and reward it. Some instructors are using portfolios and developing their own student evaluation and assessment tools as a means of documenting unusually successful or experimental teaching experiences. However, this is extremely difficult to do. Campuses need to provide for some type of mentoring for instructional staff interested in this kind of work and the Institutes may develop training modules or short-course experiences to prepare mentors.

Recommendation 3.2
Recognition of faculty public service activities

SUNY should encourage all campuses to re-examine their appointment and promotion criteria to ensure that adequate attention is given to effort and accomplishments within a broader form of scholarship that encompasses teaching and service as well as traditionally recognized research and creative activities.

The peer review and evaluation process within the academy ought to be adjusted to recognize alternative forms of scholarship such as curricular development and conference presentations, as well as innovative teaching methods. Curriculum development, presenting a paper at a conference, and serving on a panel are all valid scholarly contributions and should be rewarded, as should service to the institution in the form of organizing conferences and institutes on teaching and learning, and participation in collaborative programs with local schools. These kinds of activities may appear to have intangible value, but that may be because we have not taken seriously enough the challenge of developing indicators of success. Furthermore, these activities have enriching consequences: what they give the individual is given back to the students in improved quality of teaching or service, and this is passed back to the institution in the quality of its graduates and what they bring to their work, their society, and service to others. In the end, the institution's reputation is enhanced.

Recommendation 3.3
Multicultural perspectives for teachers

Each SUNY campus that prepares teachers or school administrators, whether in pre-service or in-service programs, must ensure that multicultural perspectives are infused into all curricula and that effective collaboration between schools of education and liberal arts takes place so that the perspectives of future teachers and administrators matriculated in these programs are broadened.

It is critical that teacher and school administrator training programs, both pre-service and in-service, offered by universities and colleges in New York State focus upon curriculum content that addresses family stress and the under-development in our children of those skills and attitudes that are needed for success in school, college, and the workplace. While there are many efforts underway to restructure New York State's public schools, too many teachers are still being prepared for traditional teacher-centered, textbook-dominated classrooms, with shockingly little exposure to the curricula and pedagogy of inclusion.

Subject matter in both content area and pedagogy course work must be culturally inclusive, representing the diversity with which New York State teachers will be confronted in the years to come. Each campus should appoint an advisory board to evaluate and assess certification programs in the area of multicultural inclusion.

The best preparation of future teachers, whether in existing kinds of programs or in new structures such as the proposed professional development schools, will continue to occur where all faculty on campus recognize their responsibility for and support the priority of this critically important element of our mission.

Recommendation 3.4
Multiple entry points for teacher training

SUNY should provide opportunities for multiple entry points and alternative approaches to training elementary and secondary teachers at both undergraduate and graduate levels.

In addition to the pilot professional development schools recommended earlier, there are alternative routes to public school teacher preparation that should be maintained by SUNY. Successful, traditional working models exist; new configurations are emerging.

In recent years the University and the State Education Department have encouraged the development of jointly-registered teacher education programs between two-year and four-year colleges. These programs, while still considered experimental, have a number of advantages: improvement of baccalaureate achievement by historically underrepresented groups in the teaching profession, guaranteed student transfer opportunity with no credit loss, and eligibility for some types of financial aid and scholarships. SUNY campuses with undergraduate teacher preparation programs may work collaboratively with secondary schools in their communities to develop pre-teaching academies that help identify students of exceptional promise for the teaching profession.

Another approach to teacher preparation, recently resurrected from the 1960s, is the Master of Arts in Teaching degree. These programs, along with their derivative Master of Science in Teaching counterparts, offer the opportunity for a teaching career to college graduates with an academic major, the intellectual skills to do advanced work in that discipline, and the temperament and disposition to be an effective teacher, but who have had no previous coursework in education.

The difficulty that has yet to be overcome, however, is to match more closely the patterns of teacher supply and demand — by subject area of certification; by geographical distribution across the State and willingness to serve in urban or rural areas; and by representation in terms of race/ethnicity that corresponds somewhat to the community in which the schools are situated. SUNY should explore with the State Education Department ways to coordinate these patterns of supply and demand in the most efficient and effective manner.

Summary Notes
of
Discussion by SUNY Presidents
SUNY Administrators' Retreat

A group discussion on the Task Group Report at the SUNY Administrators' Retreat on October 12, 1992 produced the following recommendations.

1. **The Chancellor's Task Group on College Entry-Level Knowledge and Skills is one important way that SUNY is *already* responding to a number of the recommendations put forth by the Chancellor's Task Group on Public Education in the category of student preparation and school-to-college transitions.**

   - Discussants emphasized the importance of colleges' communicating academic expectations early to schools, students, and parents. Presidents expressed a willingness to write to 5th and 8th graders and their parents about college preparation, as the Public Education Task Group Report suggests.

   - Offering college courses at the high schools, whether on site or through distance learning technologies, also can promote smooth school-to-college transitions. Some colleges have recently found such courses undersubscribed however, probably because of tuition increases.

2. **The business community has been one of the strongest voices for school reform, sometimes so strong that it has clashed with the more conservative elements in the education establishment. SUNY needs to harness the energy and commitment of business and industry to help apply the resources of the University to school-college collaboration and school reform.**

   - If SUNY is to prepare teachers to teach in reformed schools, it must be involved in helping to restructure the current school system.

   - Business should be drawn in as an equal, not a dominant, partner.

3. **SUNY can employ a variety of low-cost, yet effective, means of recognizing good teachers and good teaching in the schools.**

   - New Paltz presents the Dean of Education's award to a few selected public school teachers each year. With it comes appointment as a clinical professor for the year and access to various campus events and facilities.

   - The President of Fredonia sends 400-500 congratulatory letters each year to school teachers identified by incoming freshmen as superior teachers.

   - On some campuses faculty meet regularly with their school colleagues in the disciplines to discuss curricula and other academic issues. There is a Central New York Consortium in which Cortland participates that includes not only faculty but college and school district administrators as well.

4. **The SUNY System needs to develop a vehicle to communicate to the public and state leaders in direct, clear terms what it is already doing to support public education statewide, and what more it could do.**

   - Gathering and disseminating information on SUNY's rich array of local school-college partnerships could serve as a platform to call greater public attention to Systemwide efforts.

   - A conference on this subject with school superintendents might also be appropriate.

5. **The University should encourage teacher education faculty, and other faculty, to spend more time in the schools and with their school teacher colleagues.**

   - In line with recommendation 3.2 of the Public Education Task Group, SUNY may need to consider such work valuable public service, or perhaps an aspect of instruction, for purposes of promotion and tenure.

Final Comment

The discussants did not have time to address all the recommendations in the Public Education Task Group Report. It is fair to say, however, that the general tone of the discussion was highly supportive of the Report.

James M. Clark *(Convener)*
President, State University College at Cortland

SUNY 2000
State Needs Task Group on Social Services

FINAL REPORT

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PREFACE

I am pleased to submit the report of the SUNY 2000 Task Group on Social Services. The process of our work on this report was smooth, interesting, and I think produced a good result. The State University of New York can be proud of its achievements in the field of social service. At the same time, we see opportunities now to build on this record in a way that fits the current period of challenge and change in social policy and for the State's finances. I wish to thank Lynn Videka-Sherman, dean of the School of Social Welfare at Rockefeller College, who served cheerfully and with great ability as liaison. Assistance was also provided by Thomas Kinney, director, Sally Berdan, and the staff of the Professional Development Program and Laurie Norris in my office at the Rockefeller College.

Richard P. Nathan
Chair

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Mission

The purpose of the task group is to make recommendations to the Chancellor's Advisory Council on State Needs on the response and contributions of state university of New York to New York State's social services needs as outlined in SUNY 2000. The Task Force's work should highlight actions that will enhance the working relationships of New York State agencies and SUNY in meeting social service needs. The Social Services Task Force should:

- Identify existing SUNY initiatives that address New York's social service needs.
- Review potential new responses of SUNY to New York's social service needs.
- Recommend priority action steps to help meet New York's social service needs.

New York has had a historical commitment to the provision of social services to its citizens. The State has model programs and a deep commitment in many areas of social services. Yet the social service needs of New York are increasing as the state experiences the current economic recession and budget crunch. Medicaid, a major social service program that provides access to health care and long-term care for the poor, is the second largest expenditure in the state budget. (Public education is the first.) Homelessness is at crisis levels in New York City and is increasing in other areas of the state. Child abuse reports have increased dramatically. The number of children in foster care is soaring; this increase is related to crack-cocaine use and other forms of substance abuse. The number of children living in poverty in New York has increased over the past decade as it has across the country. New York is responding to its social service needs during these economically difficult times by encouraging innovation and new initiatives, such as the Neighborhood Based Initiative (NBI).

SUNY has two avenues through which to address the social service needs of New York State. The first is through access. For example, participation of community colleges with the Department of Social Services in partnerships through the JOBS programs allows AFDC recipients to take college courses to enhance their opportunities for self-sufficiency. Programs such as "Camp Liberty," a summer camp program for children served by the Department of Social Service, brings economically disadvantaged children to college campuses and offers them the opportunity to make educational enrichment a part of their own experiences. Other programs such as the

"Bridge program" and the "Economic Opportunity Program" provide college experience to economically disadvantaged students.

SUNY also has an important contribution to make to social services in New York State by bringing intellectual and knowledge-development capacity to bear in helping solve the state's social problems. An important purpose of the Task Force is to identify SUNY activities that can helps solve social problems and increase productive collaboration between SUNY and New York State. The Task Force will include leading SUNY faculty and leaders from the New York State government.

Report of the State Needs Task Group on Social Services

> The vision for SUNY 2000 must articulate a new model for which no convenient label yet exists. How SUNY 2000 translates its mandate of instruction, research, and public service into overall goals for the university system will define a unique model — one designed to capture the imagination and serve the needs of the state.
>
> D. Bruce Johnstone, Chancellor's Letter
> *SUNY 2000: A Vision for the New Century*

The current period is one of challenge and change for the state government of New York in the field of social services. The State has a long tradition of caring leadership in this field and is a trend-setter in the nation. But now at the same time that social needs are growing in the fields of poverty, drug addiction, problems of the frail elderly, homelessness, AIDS, family dysfunction, and youth crime, the State is faced with serious and deepening economic and fiscal problems. We are challenged to do more with less.

The report *SUNY 2000: A Vision for the New Century* issued in September 1991 focused on areas in which the State University serves the community. To build on this report, Chancellor D. Bruce Johnstone in November 1991 appointed five parallel Task Groups, including our 21-member group on Social Services. Our Task Group includes representatives from SUNY university and college campuses and state and local social agencies. Early in our deliberations, we decided that our work should not be limited to the scope of the responsibilities of State and local social service agencies. It should also include other program areas — mental health, developmental disabilities, aging, alcoholism, drug abuse and other aspects of health policy. Members of the Task Group saw the charge to the group as twofold — to survey and describe the significant efforts already underway within the SUNY system and to look ahead to the role that SUNY can play in the future. This report is divided into two main parts. The first describes the work and findings of the Task Group. The second presents five main recommendations.

The Work of the Task Group

The Task Group met in Albany on February 6, April 3, and July 15, 1992. We reviewed data on social service-related research, training, and service projects based on SUNY campuses and on social service-related educational programs at SUNY campuses. Task Group members conducted nine regional focus group meetings in New York, Albany, Buffalo, Plattsburgh, Utica, Cobleskill, Ithaca, and Binghamton. SUNY faculty and staff, local officials, and leading managers of public and not-for-profit social agencies participated in the groups. We feel the level of participation and good response to the focus groups suggests that the time is right to strengthen the partnership between SUNY and the social services sector in New York.

Two-Way Street Theme

The application of social science to social policy and service enriches both the State and the University

A major theme of our deliberations was the need to build bridges between the University and the public and not-for-profit social service sectors. This is more than a way for the University to do good. It is intrinsic to the education of New York's citizens. We see the relationship between the University and the social services sector as a two-way street. The application of social science to social policy and service enriches both the State and the University. Applied social science is not simply a matter of what the University can do for the real world. It is also and very much a matter of what the real world can do for social science. In three critical bridging areas for social services — education, research, and service — the faculty and students of the University are enriched by close encounters with the real world.

The SUNY Record in The Field of Social Services

We see a strong and growing record of achievement for SUNY in the fields of applied social science and social service. SUNY can take pride in these accomplishments. In this period of challenge and change, we also see opportunities. We concentrated our work on those opportunities that fit the times — that do not involve big new investments and can strengthen the service role of the University.

One of the key points that emerged in our early analysis was that people in the University, much less the public at large, do not have a full and good picture of the many ways the University is already heavily and effectively involved in critical areas of social policy. The University provides professional education in a wide range of social service areas. The table below shows highlights of professional education in the social services for University Centers and four-year colleges.

Program Type	Degrees Awarded	Number of Programs	Number of Campuses
Counseling	MS, CAS	5	3
Human Development and Social & Behavioral Science	BA, BS	9	3
Human Services	BPS, MPS, BA, BS MS, MA, PhD	16	8
Psychiatry	MD	2	2
Psychology	BA, BS, MA, MS, PhD, PsyD, CAS	55	21
Social Work	BS, MSW, PhD	10	6
Sociology	BA, BS, MA, MS, PhD	34	21

The University's community colleges offer many specialized programs for paraprofessionals and support personnel in social services. A selected list of these programs follows:

Program Type	Degrees Awarded	Number of Programs	Number of Campuses
Community Residence Aide	AAS, Cert.	3	2
Geriatric Aide	Cert.	3	2
Human Services	AS, AAS	23	17
Mental Health Assistant	AAS	6	6
Recreation Therapy	AAS	1	1
Rehabilitation Aide	Cert.	1	1
Substance Abuse Counseling	Cert., AAS	4	3
Youth Services	Cert.	2	2

The undergraduate curriculum in many instances provides majors and specialized courses that lay a background of understanding about the society

The undergraduate curriculum in many instances provides majors and specialized courses that lay a background of understanding about the society, the history of social policies and programs, and current problem areas. SUNY is actively involved in educational partnerships with social service agencies. Most campuses have internships and field practicums in service agencies. Some campuses have community service programs that offer students the opportunity to participate in agencies as volunteers. Typically, this combines a volunteer experience with an academic component such as readings and a paper that integrates the readings and the student's experience. Academic credit is earned for the combined experience and academic work.

In addition to canvassing the University's educational programs and activities, we conducted a general review of SUNY research in the field of social services by obtaining summary reports from the Research Foundation. We then consulted with officials at the campuses on the way these data are compiled to help us better understand them and use them effectively in our analysis. On this basis, we estimate the University's overall research role in the social services area involves $18,831,000 of funded projects.

We conducted a similar canvass of SUNY training activities in the field of social services. Here too, we concentrate on the overall picture, which is impressive, another $18,738,000 of funded training projects. Examples of training projects include the "Public Service Training Program" and "A Team Training Model Assessing Severe Behavioral Needs in Home School Districts."

Under the heading of service projects, we include projects such as "Services to Minority and Female-Owned Businesses" and "Mobilizing Communities for Prevention Through Television." Service projects constitute $10,695,000 of funded projects.

Another area in which SUNY serves a vital social role involves access to higher education. Task Group members and participants in the focus groups commented favorably on initiatives of the University to open up opportunities to disadvantaged students, especially those from distressed areas of the state. Programs such as the Economic Opportunity Program make a tremendously important contribution by providing higher education opportunities to disadvantaged citizens. We believe that these efforts should be applauded and publicized.

Among benefits of SUNY activities – continuing education for social service and innovative partnerships in responding to daunting social service needs

Focus Group Findings and Recommendations

Focus group participants described many benefits of current alliances between SUNY and New York State social service agencies. Among the benefits of SUNY activities cited by the focus group participants were preparation and continuing education for social service and innovative partnerships in responding to daunting social service needs. SUNY-New York State collaboration accesses resources, such as federal and foundation dollars, that New York State agencies could not obtain without the partnership. Focus group participants also identified barriers to collaboration with SUNY faculty and staff. These were discussed under three headings:

- **The tension between applied versus pure research can limit the approachability of SUNY by social services agencies.** Social services agency personnel at some of the focus group meetings said that academics, including SUNY faculty, are too concerned with theoretical and pure research as opposed to more pragmatic policy issues and social work practice. This creates an attitude that makes it difficult to find common ground for collaboration. One focus group participant stated that this was a bigger problem for the University Centers than the four-year colleges and less of a problem for the community colleges.

- **The lack of institutionalized support for collaboration results in each collaborative contact being developed in an ad hoc fashion.** Considerable frustration was voiced about the lack of institutionalized paths for exploring collaborative relationships in research, training, and service. We were told that attempts at collaboration often involve laborious efforts to seek out and develop a relationship and many false starts. Moreover, concerns were expressed that each collaboration must start afresh on an ad hoc basis when a key participant moves or leaves, which substantially increases the cost of collaboration.

Social services agency personnel want to collaborate with "someone who knows what it's like at the ground level."

- **The knowledge and experiential base of SUNY faculty and social service professionals is divergent at times.** Social services agency personnel want to collaborate with "someone who knows what it's like at the ground level." Related to the perceived conflict between academic research and the research needs of social agencies, it is important for SUNY faculty and staff to have credibility with agency staff, credibility based on shared understandings of the formidable barriers to social program implementation and the hard problems of inner-city and community distress. Communication between the two worlds is essential.

The focus group meetings produced observations and recommendations, several of which are encompassed in the recommendations of this report. Among the specific suggestions and ideas discussed in the focus groups meetings, the following are worth noting here:

- The university curriculum should include more interdisciplinary courses. For example, the issues of AIDS and homelessness cannot be understood from the perspective of any one university discipline.

- Opportunities for student internships and community service should be increased. Students could rotate through the different services, e.g., alcohol and substance abuse, family counseling, day treatment.

- Team teaching arrangements that include practitioners as well as faculty should be explored.

- More educational opportunities should be made available to clients.

- Local agencies need help with needs assessments and grantsmanship.

- Projects are often faculty or student driven on a semester basis, providing little continuity when semesters end. Collaboration must fit the time frames of action settings.

- There is an "urban bias" to State programs and regulations. Rural New York's social service needs must be considered.

- Training is needed for administrators and managers to prepare them to work with the down-sized work force of the future.

- Community-based organizations (CBOs) are taking a greater role in the delivery of services. Many CBO managers need training in administration, planning, and finance to make their organizations more viable.

- Universities must address the issue of diversity. Faculty and students should reflect the diversity of New York's population if they are to be sensitive to human services issues.

- There is a need for more cross-agency, cross-campus forums on substantive issues such as AIDS, homelessness, and foster care.

- Both agencies and faculties of SUNY often need help in responding to RFPs and soliciting foundation support.

- An institute is needed to analyze the management and effects of current public policy. State government is too preoccupied with cutting costs to do this type of evaluation and analysis.

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Goals for SUNY

Based on our meetings and feedback from the focus groups, three main goals for future SUNY-New York State collaboration on social service issues emerged:

1. to enhance the quantity and quality of collaboration in producing relevant knowledge, services, and education to meet the social needs of the citizens of New York,

2. to make the process of collaboration between State agencies and SUNY easier and smoother, and

3. to have SUNY lead knowledge development for social service policy and practices in New York.

Recommendations of the Task Group

The Task Group makes recommendations in five areas. Two recommendations are for initiatives to link individuals and institutions concerned with social services. Three recommendations focus on internal changes for SUNY faculty and staff to be responsive to the research, education, and service needs of the social services community in New York State.

Recommendation 1
Linkage Institutes for Applied Social Service Research

In meetings throughout the State, there was eye-opening agreement on a common problem — the strong, sometimes even debilitating, tendency of social agencies and workers to plow their own furrow with little or no peripheral vision. Many times, public and nonprofit community-based agencies are dealing with the same people but with functional-area lenses that prevent them from making connections that are critical in the lives of the families and individuals who are participants in social programs. People with problems do not live their lives according to budget and bureaucratic categories. Great benefit can be derived from helping social agencies and personnel make connections in research and knowledge building so they learn from each other and do not reinvent the wheel in each service agency and area. There was wide agreement on the part of people who attended the focus group meetings that this is a field in which the State University could play an innovative role across state agencies and functional areas that would build in logical ways on work we currently do.

SUNY could play this integrative role by creating what we call ***"Linkage Institutes for Applied Social Service Research"*** as mechanisms for sharing knowledge on an ongoing basis across social service agencies and between agency officials and SUNY faculty and staff to achieve the twin goals of enhanced collaboration and improved program performance. One statewide Linkage Institute should be located in Albany; another should be located in New York City. Other Linkage Institutes should be created at regional locations throughout the State. For smaller communities and rural areas, we think the best procedure would be to use an "RFP" approach whereby local consortia bid for two- or three-year linkage programs.

As we talked about the benefits to be derived both for the social sector and the University from this activity, we became increasingly convinced that the modest investment needed (which might well be provided by federal and foundation funders) could produce truly innovative results. This is ***a natural role*** for the University — one that State, local, and nonprofit officials agree needs to be played, but where they face substantial barriers in doing this internally.

Linkage Institutes should be housed in existing SUNY-owned facilities. They should start with clearinghouse activities and over time take on a more active role in shaping research agendas and in the development of strategies and policies for increased service integration. Among other functions, the Linkage Institutes should sponsor seminars that would include representatives from multiple agencies and disciplines. Participants should be people who could be involved in research to solve the State's social welfare problems on a basis where the benefits both to the society and to scholarship and teaching would be appreciable. Linkage Institutes should involve faculty and students and provide the necessary staff support. Each Institute should have a steering committee composed of representatives from SUNY and from leaders from State, local, and nonprofit agencies concerned with social services.

Recommendation 2
Sabbatical Exchanges

The State University of New York and New York State should create a sabbatical exchange program which includes faculty taking sabbaticals in State agencies and State agency officials taking sabbaticals at SUNY campuses. Faculty sabbaticals should involve service and training as well as research. Agency sabbaticals should focus on bringing promising future leaders in New York State government to SUNY campuses to have the opportunity to immerse themselves in the state-of-the-art knowledge and technology that affects their work. Such a sabbatical program would help create the lines of communication that will build a strong foundation for future generations of collaboration between social service agencies and SUNY.

Recommendation 3
Rewarding Service

The Task Group believes that progress to increase collaboration between SUNY and New York State government about important social service needs and their fulfillment cannot happen without SUNY reshaping its values and norms concerning faculty work and resource deployment. To give some flavor of the views expressed around the table on this issue, one member of the Task Group said, "Service is not a valued component of what we do." Another said, "It is surprising how isolated we are." Several people expressed nostalgia about the service tradition of the midwestern systems. The University needs to make internal changes to support and affirm the value of faculty and staff collaboration with New York State government on social services issues. SUNY's criteria for the hiring, promotion, and tenure of its faculty should support partnerships with State government to help meet the social needs of the State. Community service must be recognized as a significant part of the academic's role. Many faculty and staff members devote considerable time to serving on boards and acting as resources for community organizations. Funded projects already underway would benefit from increased involvement of faculty if there were some way for in-kind contributions to be taken into consideration when decisions on tenure and promotion are made.

Recommendation 4
Data Base Building

SUNY should take the lead in creating a cross-agency database building on the existing databases of social service and related State agencies. Creating such a cross-agency database was seen as a priority need by many agency representatives. By taking on this role, SUNY could come to have an increasing leadership position in research and policy analysis for meeting New York's social service needs. SUNY officials should consult with people who are currently and have in the past worked on systems to aggregate information databases, including officials in State agencies such as those responsible for the data sharing projects in the Department of Health and the Children and Youth Management Information System (CYMIS) sponsored by the New York State Council on Children and Families.

Recommendation 5
Use of Technology

Greater use should be made of distance learning technology, such as teleconferencing, computer-based training, and bulletin boards, to create the opportunities for networking among the many individuals and organizations that could contribute to solving the State's social problems. The SUNYSAT system that links the sixty-four campuses by satellite, which has been used to deliver courses and seminars, could be used to even better advantage to link people from different disciplines and regions around the State for social service education, research, and service projects.

Summary Notes

of

Discussion by SUNY Presidents

SUNY Administrators' Retreat

Discussion of the Task Group Report at the Administrators' Retreat, October 12, 1992 first centered on presidents' views on how State University could best address social service issues in New York. There was recognition that, while the Task Group is focusing on New York, these are global issues. Some believed that social services are often removed from faculty, and student, awareness.

Three themes of the task group report were identified. The first is that communication between SUNY and state agencies and between state agencies and not-for-profit agencies is essential. Social service delivery could be enhanced by better communication among these systems. A second theme is that any initiatives to promote SUNY-New York State collaboration on social service issues must be balanced between a statewide and a local emphasis. Many participants felt that a statewide focus alone would miss important partnerships and perspectives that can be attained by a local focus. A third theme is that SUNY has a unique opportunity to enlighten students through community service opportunities.

Discussion turned to the Task Group's key recommendation, the Social Services Linkage Institute. The institute could be established at a modest cost by sponsoring a one- or two-year position at the Rockefeller Institute, which serves the entire SUNY system. The Rockefeller Institute is viewed as a neutral place, and it is believed that foundation support could be found to provide longer-term support for such a partnership.

The question of the Linkage Institute's focus was raised. How should initial energies of such an institute be invested? What should be the balance between state, regional, and local focuses? Again, there was agreement that a local focus is important for collaborative projects.

The service mission of the SUNY community colleges was highlighted. Knowledge development and dissemination at the statewide level would help community colleges in local service collaborations. Knowledge development and dissemination would be a key function of the Linkage Institute and would foster efficient and effective service and collaboration at the local level. The concept of "linkage" might be viewed as a threat if coordination and control are emphasized, but communication and knowledge dissemination should be welcome functions for the proposed Linkage Institute.

There was recognition that SUNY is now serving a needier student population than it has in the past. SUNY students include social services clients and persons incarcerated in prison. To support these populations, some campuses have taken on social services roles. The Bridge Program is a formal partnership between SUNY and the NYS Department of Social Services to deliver basic skills and higher education to persons served by the social services system. The difficult collaborations between the Department of Social Services and SUNY in planning the Bridge Program illustrated the culture clash between the two organizations. Without the threat of loss of federal funds, the partnership may have never been forged.

The varied roles of the many SUNY campuses in addressing social service needs was discussed. It would be useful to have recognition of individual campus missions and how these would affect SUNY collaboration with New York State on social service needs.

Several persons recognized that the major challenge in implementing the recommendations of the report is one of prioritizing competing themes and ideas. With limited resources, SUNY will need to carefully choose the first commitments of the Linkage Institute and of the Task Group Report.

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